

A STUDY OF THE PRINCIPLES UNDERLYING
THE T.A.T., WITH SPECIAL REFERENCE TO
THE DEVELOPMENT OF A TECHNIQUE FOR
USE IN COUNSELLOR SELECTION.

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SUMMARY

Following an examination of the assumptions underlying different theories of the Thematic Apperception Test, two general approaches, using attitude and formal variables were selected for empirical analysis.

A review of studies of the characteristics of counsellors indicated that, although certain differences in personality and behaviour had been found between those judged to be good and poor counsellors, there was no evidence of a unitary good counsellor profile.

The relevance of various attitude and formal measures on the TAT to the selection of Marriage Guidance Counsellors was studied :

- 1) by comparison of candidates who had been accepted and rejected for training as counsellors on these measures,
- 2) by cluster analysis of the interrelationships between the candidates resulting in profiles of various types of candidates,
- 3) by cluster analysis of the TAT and other psychological and sociological measures resulting in an empirically based classification of thematic measures.

The results of these studies indicated that both attitude and formal measures are related to the

decisions of the selection board but since there is not one single type of accepted candidate there is a complex relationship between the TAT responses and the criterion. Secondly, differing TAT measures were seen to have widely varying characteristics and the validity of some of the current generalizations and assumptions about TAT measures are open to doubt. Thirdly, the interrelationships between the TAT measures obtained from this population indicate the need for a system of classification of TAT measures based on empirical and conceptual foundations.

SECTION 1

INTRODUCTION

INTRODUCTION

The Thematic Apperception Test is one of the most widely used ways of measuring personality in general and motivation in particular (Mills, 1965). Every year the stream of publications and articles continues. However, despite the large body of published research on the TAT its usefulness (along with that of other projective techniques) is still open to challenge. Zubin, Eron and Schumer (1965) in a sympathetic account of projective techniques have commented : "Projective Techniques were once young and promising. Today they are only promising." (p.610)

Although there are several reasons for this situation, one of the most important must be the lack of standard methods of scoring the TAT. Although Zubin and his associates were exaggerating slightly when they commented that there were nearly as many scoring methods as there were studies (Zubin et al, 1965), the number and variety of approaches is immense.

Devised by Morgan and Murray in 1935 as a way of investigating fantasies, the TAT has been used by clinically oriented psychologists as a means of gaining access to conscious and unconscious dynamics (Shneidman, 1951; Bellak, 1950) and by methodologically oriented psychologists who find a challenge in unravelling the dynamics of the test performance itself (Klinger, 1966; Murstein, 1963), by general psychologists to whom it is but one way of

measuring particular motives in which they are interested (Atkinson, 1958; Atkinson and Feather, 1966), as well as other investigators with differing aims and approaches.

This variation in intention has given rise to very different methods of interpretation, so that Fisher (1967) has commented that different methods of scoring the TAT may be more similar to those of other tests than they are to each other. (1)

One important dimension on which TAT studies differ is the extent to which they make use of a "Sign" or "Interpretative" approach. Some researchers have scored thematic protocols according to the presence or absence of certain well defined cues. A score based on the sum of these indices is then regarded as a measure of some personality attribute such as adjustment (Dana, 1959a), or need for affiliation (Shipley and Veroff, 1958). This approach has been criticized on the grounds that no single index has an invariant meaning (Henry, 1961) or that such indices may not be valid in a different population while a more theoretically oriented approach may be (Lindzey, 1961; 1965). However the more intuitive approaches are open to the usual criticisms of not being

(1) "To assume underlying unity is as unreasonable as lumping together a series of phenomena because they have been studied with the same technique (e.g. tachistoscope, memory drum)". (p.166).

objective and also that the interpretive process is not made sufficiently explicit. The approach used in the empirical studies reported here falls somewhere between these two extremes. Although specific indices were used to distinguish between candidates who had been accepted or rejected for training as Marriage Guidance Counsellors, the process of analysis did not stop there. The interrelations between the TAT scores and their connections with other variables were also analysed by means of inter-subject and inter-variable cluster analyses. In this way it was possible to throw some light on the kind of processes being tapped by these scores. In addition, the great majority of the signs used were conceptually related to the criterion, (1) so that predictions as to the direction of the differences could be made.

(1) That is, the outcome of the Selection Board. The decision of the Selection Board should not, in the strict sense of the word, be called the criterion, as there is no independent evidence for its validity as a measure of the candidate's potential ability in counselling. The value of the outcome lies rather in the fact that it provides a useful source of information about the personality of the candidates. For the sake of convenience, the example of many of the previous studies of counsellors has been followed and the judgement of the Board has been referred to as the criterion.

SECTION 2

PROBLEMS OF ASSESSMENT

PROBLEMS OF ASSESSMENT

Introduction

The TAT shares with other ways of studying personality a number of common empirical and conceptual problems.

Four of the problems most salient for the TAT are discussed in this section. They are :

- 1) the nature of projective techniques;
- 2) the relationship between theory and method;
- 3) the idiographic-nomothetic distinction;
- 4) the clinical-statistical distinction.

The Nature of Projective Techniques.

One of the most widespread distinctions in the field of personality assessment is that made between projective and other techniques. Despite this, there is a tendency for reviewers to object to this dichotomy and substitute their own distinctions instead (e.g. Wing, 1968; Watson, 1959; Cattell, 1951).

This may in part be due to the ambiguity of the terms objective and projective.

Objective.

One of the most common meanings of objective is that of reliability of scoring, or zero examiner effects (Watson, 1959). However, if this distinction is used then a projective test will be a subjective test when scored intuitively by a skilled clinician (e.g. Lindzey

1965; Murray, 1943) but objective when scored for a particular variable according to a conventionalized manual giving a high degree of interscorer reliability (Atkinson, 1958; Birney, Burdick and Teevan, 1969).

A different approach has been taken by R.B. Cattell (1951) who has suggested that an objective test is one in which the subject does not know what the "correct" response is. Again this runs into difficulty because, with the TAT, there is evidence that with certain measures, in particular situations, the subject has a good idea of what the correct response is (Murstein, 1963; Megargee, 1966a) while in others it would be exceptionally difficult to know what the examiner had in mind (Epley and Ricks, 1963).

Projective.

Lindzey (1961) has pointed out that the term projective has been used in essentially different ways. From an analysis of Freud's writings, Lindzey has concluded that he used the term in two senses. What Lindzey terms "Classical Projection" refers to "an unconscious and pathological process whereby the individual defends against unacceptable impulses or qualities in himself by inaccurately ascribing them to individuals or objects in the outer world. The second usage, which might be called generalized projection, refers to a normal process whereby the individual's inner states or qualities influence his perception and interpretation

of the outer world." (Lindzey, 1961, p. 31) ⁽¹⁾ It is often the first sense which is referred to in discussions of "projection", (Bramel, 1962, 1965; Holmes, 1968; Murstein, 1963; Sechrest, 1968). Ironically, Frank, who popularized the term "projective technique" makes little reference to Freud, but rather uses a Field-Theory approach (Frank, 1939; 1948). ⁽²⁾

According to Frank, "Basically a projective technique is a method of studying the personality by confronting the subject with a situation to which he will respond according to what the situation means to him and how he feels when so responding." (1948, p. 46). This, as Lindzey (1961) has pointed out, is similar to the concept of "generalized projection". This definition of projection has important implications, because, as Frank notes, "any kind of test can be utilized as a projective method if the subjects' performances or responses are treated, not as products to be rated, but as indicators to be interpreted." (1948, p. 38) Conversely, this definition also implies that "Projective tests are in fact, not strictly tests of projection,

(1) Bellak (1950) has noticed a similar difference, but prefers the term "apperception" to "generalized projection".

(2) "all behaviour takes place in a field and can be understood as a function of that field as we are now beginning to realize in the conception of the cultural

but tests of mental mechanisms or of personality dynamics including projection". (Anderson, 1951, pp. 3, 4).

Lindzey (1961) has outlined four primary criteria of projective techniques :

- a) their sensitivity to unconscious or latent aspects of the personality.
- b) the multiplicity of response.
- c) the multidimensionality of the device.
- d) lack of subject awareness of the purpose of the test.

However, of these four criteria the first and the last are open to criticism, at least when applied to the TAT, since they are characteristic of intention and not of achievement. Some of the systems of analysis of thematic protocols purport to measure variables which their authors explicitly conceive of as not belonging to the realms of the unconscious (Arnold, 1962), or else they are not concerned with this issue (Atkinson et al, 1958; Atkinson and Feather, 1966). (1)

field and social field." (1948, p. 19)

(1) To be precise, the 837 page volume on Motives in Fantasy, Action and Society does contain one reference by Atkinson himself : "The term motive points to the one or more "meanings" of the act for the individual, of which meanings he may be completely unaware". p. 602

The later volume, edited by Atkinson and Feather, has no such references.

Turning to the fourth criterion, while this is a common goal with the TAT, there is evidence that it is not always successfully reached (Megargee, 1966a; Murstein, 1963, p. 318; Block, 1964). Conversely, Cattell has devised several non-projective tests in which it is unlikely that the subject is aware what their purpose is, for example, Galvanic Skin Response measures (Cattell, 1965, p. 106).

While it is true that the TAT satisfies the third criterion, that of multidimensionality of response, so do certain questionnaire measures of personality such as the Minnesota Multiphasic Personality Inventory.

This then leaves the second criterion, the multiplicity of response, which would seem to be an important distinguishing feature of projective techniques. The richness of response which makes inference from projective technique protocols possible is completely unnecessary in most objective techniques. However, with the TAT it is this multiplicity of response which makes the wide variety of ways of analysing the response possible. (1)

(1) "It is hard to conceive of a psychological variable that some investigator has not attempted to assess by means of projective technique" (Lindzey, 1961, p. 43)
 "Apperceptive variables have shown significant correla-

Since a TAT protocol approximates a sample of behaviour, it, like most behaviour, must be governed not only by motivational forces (Holt, 1960) but also by perceptual processes (Klein, Barr and Wolitsky, 1967) and limitations of ability (Wallace, 1967). In fact, as will be shown from the empirical studies, consideration of the motivational factors alone, to the exclusion of other processes may well result in distorted results for the former. Some of the theoretical and methodological implications of the complexity of the response and consequent multidimensionality for the TAT are discussed in the next section.

Measurement and Theory.

One 'enduring problem in psychology' is the relation between theories of personality and motivation and methods of assessment (Holzberg, 1954). Lindzey (1961) has suggested four ways in which attempts have been made to integrate theory and research in projective techniques. These are the attempts to :

- 1) relate existing major psychological theories to projective techniques (e.g. psycho-analysis and

-tions with such disparate variables as changes in intelligence quotient, level of aspiration, overt aggression, conformity, leadership in a group, grades in school and anxiety over sexuality" (Kagan and Lesser, 1961, p.ix).

stimulus-response theories).

- 2) relate projective testing to a particular body of empirical findings (such as those about perceptual processes).
- 3) develop miniature theories to account for particular classes of findings (the most common of all four approaches).
- 4) develop a theory specific to projective techniques (such as that of Lindzey himself, pp 145-152).

However in discussing these approaches, Lindzey is referring to explicit attempts to forge a relationship between theory and projective techniques. While such attempts are of considerable importance, this is not the only way in which theory and techniques are linked. Theory is also related implicitly to projective methods of assessment through the assumptions which the user of a projective technique holds about the nature of personality and motivation.

Reference to the research literature on the TAT indicates that many of the researchers hold to the assumption that personality can be analysed effectively in terms of general motivational traits or needs, such as aggressiveness, needs for achievement, affiliation, novelty and so on. Such an assumption has been criticized from a variety of viewpoints. The heavy emphasis on motivation, to the exclusion of perceptual processes (Klein, Barr and Wolotski, 1967)

or ability (Wallace, 1967) has been challenged. The reliance on a few big units has been attacked by Allport (1960) and recently from a learning theory viewpoint by Mischel (1968). J. McV. Hunt (1965) has also recently echoed Barker's (1960) earlier call for more attention to be paid to environmental factors, and George Kelly (1958) has queried the necessity of concepts of motivation. Furthermore, Kagan (1964) has suggested that since cognitive studies have become respectable again more work will be centred on the standards which people hold about their own behaviour, and there will be a move away from the old concepts about motives.

While it is impractical to carry out a thorough discussion of this question in a few pages, some of the implications of different models of motivation for the analysis of TAT protocols will be discussed in the next section.

The idiographic-nomothetic controversy.

The fact that the scientific study of personality is interested not only in the study of personality in general, but also in the study of individual personalities (Allport, 1962) has led to considerable controversy over whether or not special methods are needed for the latter. This debate has often been termed the idiographic-nomothetic controversy (Holt, 1962). (1)

Allport (1962) was of the conviction that special methods were needed for the study of individuals. Making an analogy with molecular biology, he suggests that the building blocks of life turn out to be strikingly uniform in terms of nucleic acids, protein molecules and enzymatic reactions. Nevertheless species of animals and plants differ widely from each other in structure. The process of accounting for pattern is called morphogenesis and as we can distinguish between morphogenic and molecular (or dimensional) biology, so Allport suggests we can distinguish between morphogenic and dimensional psychology. In both cases Allport thinks that the former lags behind the other.

Operationally, what Allport is arguing for is the

(1) The use of these terms has caused a certain amount of confusion because they have meant different things in earlier disputes. (Holt, 1962).

use of morphogenic methods of assessment which avoid using units (traits, needs, etc...) which are assumed to exist universally, and which give results which are only intelligible when compared with the norms of others.

At this level the debate would seem to be a meaningful one. It is true to say that despite several decades of research there are few generally accepted units of personality.

The case against this view has been put forward by Holt (1962) who argues that to describe an individual trait we have to create a new, unique word, or to use a unique configuration of existing words.

This objection is based on a conceptual mistake, however, as it confuses words with a set of scientifically defined constructs. In assigning a label to a person in a scientific manner we must do so according to some kind of generally agreed rule. The question is not one of coining labels, but of the rules which must be used to affix them. The English language contains a very large number of trait names. There are something like 18,000 words, mainly adjectives, which refer to distinctive forms of personal behaviour. Perhaps between 4,000 and 5,000 refer to permanent traits (Allport, 1961, p.353). This should provide an adequate list for the labelling of 'individual' traits.

A better question is, can we apply such individual trait names reliably, and if so what use can we make of

these labels? As far as applied psychology is concerned, individual traits could have several possible uses (Gathercole, 1963). However the central problem remains. Does the use of morphogenic methods enable us to build up a cumulative body of knowledge, as part of psychological science? At first it would seem not. A characteristic of science is abstractness. Suppose we know that A has unique personality trait Y. What should we do with this finding? Can we do any more than put it on a record card and file it away? Suppose next morning A jumps out of a 10th floor window, or gets married or quits his job. How do we relate this to his unique trait? Add it to his card file?

Two ways in which morphogenic methods can be used to give generalizable results are apparent. The first way is by using them in what could be called the pre-scientific stage of theory development, as an aid to the development of hypotheses.

A second way in which morphogenic techniques could be utilized is by using individual traits, constructs, etc... as a basis on which a "second order" generalization might be made. This has been done on several occasions. For example the semi-morphogenic RRP test can be used in order to calculate a completely dimensional index of cognitive complexity (Bieri, 1955, Jaspers, 1966) and the morphogenic "Self Anchoring" Scale has been used by Jantril (1965) in order to make cross cultural comparisons.

This concept of shifting of levels can be applied to the TAT. Rather than applying purely dimensional content-analytical techniques it is possible to examine the relationship between goals and actions where the goals are identified, but not classified. Methods of analysis using this technique are discussed in the following and subsequent sections.

One other controversy about assessment which is particularly relevant to the TAT is the related debate over the efficiency of Clinical versus Statistical methods of prediction (Meehl, 1954).

Recently, Lindzey (1965) has published what Meehl claims to be the "first good example" of "Seer" being better than "sign".(1)

In the first part of this study Lindzey, through a "blind" scoring of the protocols was 95% correct in distinguishing homosexual from normal students. Twenty-TAT indices (90% correct) were devised and functioned nearly as well as the clinician. In the second part of the study, the actuarial methods were applied to a prison population, but were totally ineffective, while two clinicians were more successful.

Meehl (1965) in a discussion of this finding, accepts it as a genuine negative result for his propo-

(1) Although this claim is disputed by Molt (1970), who cites other examples of Clinical approaches yielding better results.

-sition that statistically methods of prediction are better than clinical methods. Furthermore he goes on to suggest that the result was in part due to the skill of the judges, and also to the fact that they were using "signs" not reported in the research literature. Two further propositions are made. If some judges are occasionally or even consistently better than the actuarial method then it is important not only to select these judges but also to find out the process by which they do it. Secondly, in discussing the fact that judges may have used additional highly subtle formalistic variables, Nechl explicitly argues against the proposition that the two predictive methods do not start from the same data. His argument is that "from the mathematical point of view this amounts in effect to the actuarial methods assigning a zero weight to those aspects (used by the clinician) and meanwhile assigning non zero weights to other aspects which are less predictive, or at least less generalizably so"p.30

However further consideration must cast doubt on this interpretation. The crucial point is that it is not the statistical process which is assigning the zero weights, but the clinician. It is as if in comparing, say, scores on the MMPI the clinician were allowed to specify which items could be used in compiling a regression equation while having full access to all the items himself.

The awkward truth of the matter is that a TAT

protocol is not equivalent to a set of MMPI responses. The latter are data, scores based on behaviour. The former is in some ways a record of the behaviour itself. It is closer to a film or a tape recording of the subject than it is to the former kind of test score.

This is the reason why in the study discussed the fact remains that the judges had more information at their disposal than did the actuarial equation. Furthermore the TAT with its psychometric refractoriness has provided other examples where clinical judgements appear more useful than objective psychometric approaches (Dana and Cooper, 1964).

Holt (1970) and Holt and Luborsky (1958) have differentiated between what they call the "naive" and the "sophisticated" clinical approaches. The sophisticated clinician is the one who has internalized the results of psychometric studies, including those of his own behaviour.

This would seem to be a good model to use in research studies in the TAT.

Without denying the usefulness of more complex and intuitive methods of analysis in the present state of knowledge it would seem to be fruitful in research studies to analyse protocols in terms of simpler and more explicit scores. This is not because such variables exhaust the information available, but because the information gained about the meaning of such scores

can be used both in its own right and also as an aid to the development of more "sophisticated" clinical approaches.

SECTION 3

THEORIES AND METHODS OF TAT ANALYSIS

THEORIES AND METHODS OF TAT ANALYSIS

In the previous section the importance of the richness of the response as a characteristic feature of the TAT was noted. As a consequence there is a large number of ways of analysing TAT protocols. These different approaches vary widely in the kinds of assumptions and hypothesis they incorporate. It is therefore difficult to frame general theoretical questions which are relevant to all methods of analysis. For example, Lindzey and Malin's (1958) test of the "Hero Assumption" is relevant to the way in which the TAT is used in many clinical situations. However, it is not relevant to the methods proposed by Dana (1959) or Arnold (1962).

For the same reasons, it is difficult to give a meaningful answer to the question "is the TAT valid?" (Goldfried, 1966; McFarlane and Tuddenham, 1951). We may ask however "what kinds of useful information may we gain from the TAT?"

One general theoretical question which it might appear to be worthwhile asking is about the validity of the "Projective Hypothesis". However, if "projection" is conceived as "generalized projection", then the validity of this hypothesis would seem to be a matter of conceptual rather than empirical considerations.

The "Projective Hypothesis" only states that when

faced with an ambiguous situation the way in which the person responds reveals his personality. (1)

Lindzey considers "The most general assumption underlying projective testing is : If an individual is presented with a stimulus situation permitting variable responses, the particular responses he emits will reflect his characteristic response patterns and tendencies to response." (1961,p.146)

In fact the theory from which this hypothesis is logically derivable is simply that it is meaningful to talk about personality. The argument is as follows. Despite considerable theoretical divergence almost all personality theorists make the common assumption that there are important inter-individual differences in behaviour in similar situations and that these differences are also related to intra-individual consistency.

In some situations the environmental constraints may be such as to eliminate the inter-individual differences. Those situations which are ambiguous are those in which the environmental constraints are not so severe. Thus the assumption of "personality" is that in ambiguous situations, personality will be one source of variance (both directly, and in interaction with situational variables). Since personality is thus reflected in behaviour, it must be theoretically

(1) Frank puts it as follows : "Basically a projective

possible to infer personality from behaviour in ambiguous situations. This, however, is the projective hypothesis. (1)

One way of obtaining some kind of order out of the confusingly large number of approaches to TAT analysis is by classifying them according to the assumptions they make. Many of the research-based scoring systems follow one of three different approaches.

The first, and most popular kind of assumption is that the TAT is primarily a measure of the subject's motivation (Zubin, Eron and Schumer, 1965,p.399). In addition many studies have also assumed that the content of the TAT will directly reflect the storyteller's needs and that these can thus be measured by systems of content analysis for the "needs" in question.

technique is a method of studying the personality by confronting the subject with a situation to which he will respond according to what that situation means to him". (1948,p.46)

(1) In similar vein Bellak has proposed: "If we accept the hypothesis of determinism of psychological behaviour, it follows that deductions concerning the personality of an individual can be based upon any kind of performance. Similarly, nearly any test can be analyzed for a great many different aspects, and since each dimension is by necessity a function of the testee's personality, one is bound to have results.(1954 p.42)

(Lindzey, 1961, p. 161; Lazarus, 1961). In this case there are three additional assumptions. First, it is implied that it is possible to account for a person's motivation in terms of varying levels of needs which are common to all subjects. Secondly, that there is an isomorphism between the storyteller's needs and the content of the thematic protocol, and thirdly, that content analysis is an adequate way of summarizing the content.

Despite the fact that all these additional assumptions are open to criticism, a very large amount of systematic research work has used the TAT in this way, the best known example being the work of McClelland, Atkinson and their associates on the "need for achievement" (or n-Ach, to use the common abbreviation). (Atkinson, 1958; Atkinson and Feather, 1966; McClelland, 1961).

In addition, the implicit assumption made in a great number of studies that the TAT is primarily a measure of motivation can also be criticized on conceptual grounds. Given that the TAT protocol represents such a "rich response" or a "sample of behaviour" it seems a priori improbable that it should be governed only by motivational considerations, and that processes of "apperception" ⁽¹⁾ and ability do not

(1) "The process by which the apprehended qualities of an object are articulated with similar, or related,

enter into it. (Tomkins, 1961; Lindzey, 1961, p. 147; Holt, 1960, 1961).

A second approach assumes that although the content of a TAT protocol may not be isomorphic with the person's motivation, by analysis of the relationships between aspects of the content, it is possible to gain evidence about the storyteller's attitudes, assumptions and belief system. This assumption is more in accordance with the notion of "generalized" projection than the previous approach, which corresponds more to the concept of "classical" projection.

However the correspondence is an incomplete one, because, as Bellak (1950) has pointed out, the projection of motives which the subject has no need to guard against cannot be an example of "classical" projection.

This approach has been adopted most explicitly by Tomkins (1947), Arnold (1962) and Shneidman (1961) but is made explicitly or implicitly in a range of other systems of analysis. (e.g. Smail, 1966; Coelho et al, 1962)

The third approach has been in the use of formal aspects of the TAT story. It is less clearly based on any one set of assumptions, some of the research having been based on a "sign" approach. However, one assumption in several studies is that the ability and willingness to carry out the complex set of instructions given

already existing knowledge and attitude in such a way as to be understood". (English and English, 1958).

in the TAT is itself an index of some kind of adjustment. (e.g. Dana, 1955, 1956a, 1956b, 1956c, 1959, 1960).

A second broader kind of assumption is that the way in which the subject behaves in the storytelling situation reflects the way in which he copes with other similar problem situations. For example, aggressive behaviour in telling TAT stories has been used in an index of aggressiveness (Murstain, 1965, p.313).

This approach could also be subsumed under the rubric of generalized projection.

No separate grouping has been given for psycho-analytic approaches to the TAT. This is because there is no single identifiable "psycho-analytic" method of analysing the TAT and indeed Lindzey (1961, p.128) has argued that psycho-analytic theory has not yet been fully applied to the analysis of thematic protocols. This has resulted in work with a psycho-analytic orientation being found under all three approaches.

The complex scoring systems designed for individual clinical use (e.g. Bellak, 1954; Henry, 1956; Pine, 1960) have also been omitted, as these systems, devised as a guide for the analysis of individual protocols, are usually too complex for direct research use in their entirety and have not given rise directly to a great number of recent studies. The one exception is Wyatt's (1947) system which has been adapted by Semeonoff (1956, 1958, 1959) and was used in this study.

As the content-analytical, of all the motiva-

-tional approaches to the TAT, have been among the most carefully developed and have been replicated under a wide range of circumstances, discussion will be focused upon these as they constitute the "mainstream" of recent research in this area. In particular, as the work on n-ach provides one of the most comprehensive bodies of research and theory, considerable attention will be paid to it, as a model, in order to examine the kinds of problems this approach faces.

Content Analysis Methods of Scoring the TAT

Content analysis is a well established technique used widely in the social sciences, and has been applied to a wide variety of material, from newspaper editorials to popular plays (Krech, Crutchfield and Ballachey, 1962, pp 360-363).

Its main characteristic, as applied to the TAT is the emphasis on scoring according to the presence or absence of specific categories of behaviour in the story. One of the most widely used of these approaches is for measuring n-ach (Murstain, 1963, p.84) and methods have been devised for measuring a variety of other motives (Atkinson, 1958).

These approaches have been widely used, possibly as a result of the fact that high inter-scorer reliabilities can be obtained with some of the measures. This is taken to indicate a certain amount of objectivity.

The assumptions underlying this approach give rise

to several theoretical questions. In particular the assumptions that the TAT is primarily a measure of motivation and that needs can be inferred directly from the content of the protocol has given rise to questions about the nature of TAT stories, the relation between needs and content, and the role of the stimulus in determining this relationship.

The Nature of TAT Stories.

In their original writings Murray and Morgan (Morgan and Murray, 1935;1933) conceived of the TAT as a way of partially bypassing the person's defenses and allowing more direct access to his unconscious processes. It was assumed that the story teller thought that he was taking a test of imagination and was unaware of the extent to which he was revealing his personal dynamics. It was not assumed that all the material reported by the person was in fact valuable information.

(1) Murray suggested there were three kinds of "grain"

(1) Murray wrote in 1951: "only a fraction - as a rule a relatively small fraction - of the aggregate of words, phrases and sentences that make up a set of stories represent important constituents (as defined above) of the patient's past or present personality. As a rule most of the obtained material consists of statements that are not representative of anything that needs to be included in a formulation of his personality. In short,

or information about the respondent's personality.

First, in depicting the hero of the story and his actions the storyteller usually utilized components, conscious or unconscious, of his own past or present personality, "for example, an assumption, an expectation, an idea, a feeling, an evaluation, a need, a plan or a fantasy that he has experienced or entertained" (1951,p.579).

Secondly, the way in which other figures are depicted may indicate his apperception of others, including fantasy figures, as well as parts of his own personality.

Thirdly, in the plot "The storyteller will commonly utilize memory traces, conscious or unconscious of some of the actual or fantasied events that have exerted a significant influence on his development". (1951,p.579).

Thus Murray saw the storyteller relying in part, but by no means entirely, on his own personality as a source of material when relating the story. Although using the term fantasy he saw this as an ego-mediated process and pointed out the importance of the stimulus in determining the characteristics of the stories.(1)

the larger fraction of the protocol is chaff; the smaller fraction, grain". p.579.

(1) "Every TAT worker knows that the kinds of responses in this case, stories that he gets, are largely

He also saw the source of the significant material about the personality of the storyteller as being both conscious and unconscious.

The TAT protocol as Fantasy.

Following the early terminology, TAT protocols have often been written of, and regarded as fantasy. Nevertheless there are considerable differences between a person's TAT stories and reports of other fantasy, such as dreams. One source of confusion is the ambiguity of the term fantasy. In its broadest sense it is almost synonymous with imagination. English and English (1964)⁵⁸ define fantasy as "imagining a complex object or event in concrete symbols or images, whether or not the objects or events exist; or the symbols or images themselves; e.g. a daydream." (p.203)

However, the narrower usage of the word contrasts fantasy with adaptive and directed thought, with the implication that fantasy is usually concerned with wish-fulfillment. (English and English, 1961, p.203; Rycroft, 1968, p.118). In his paper on "The Poet and Day-Dreaming" Freud depicts fantasy as being a substitute for action. "We can begin by saying that happy people never make phantasies, only unsatisfied oneevery separate phantasy contains the fulfillment of a wish, and improves on unsatisfactory reality." (1957, p.176)

determined by the characteristics of the pictures." (1951, p.578).

Murray has indicated that his conception of this word corresponds to the second usage. "Fantasy in my lingo, is an involuntary, undirected stream of images and imagents." (quoted by Holt, 1961,p.7). Thus the TAT is a method of investigating fantasies in the sense that the story construction could be interpreted in terms of largely unconscious fantasies. "The stories, according to our hypothesis, were not fantasies themselves but were molded or shaped by fantasies to some extent. But even here it is hard to draw a sharp line, since most story-composers are aware of more or less vivid images or imagents (imagined events) preceding or accompanying their spoken or written words." (Murray, quoted by Holt, 1961,p.7). In 1961 Holt's detailed comparison of TAT stories and other fantasy was published. Holt pointed to the many differences involved and concluded that TAT stories were not, and should not be termed fantasy. Despite his recommendation, the term still remains in currency (e.g. Coleman,1967) although other major researchers in this area such as McClelland, have come to argue that TAT stories are not fantasy but thought. (McClelland,1966).

Lazarus (1966) has pointed out, however, that it is probably inadvisable to come to a firm conclusion, one way or the other, as different stories may be told at different levels. Block (1964) has also noted that it is likely that fairly sophisticated subjects are now more aware of the purpose of the test than when it had been newly published. The extent to which fantasy

appears in the stories will therefore depend on the situa-^{37.} tion in which the story is written, as well as the characteristics of the storyteller. There is clear evidence that TAT stories can be told in several different ways with different factors underlying the content in each way. (McClelland, 1966; Shrable and Stewart, 1967).

McClelland, Atkinson and Arnold have all seen TAT storytelling as being concerned mainly with problem solving behaviour, although not necessarily always so. As such it is controlled by secondary processes. Lazarus (1961, p. 57) has suggested that the content of stories told at this level will relate directly to the person's overt behaviour. This would not seem to be necessarily so, as a person may be aware of a problem, may use a TAT as a method of reality testing but still not act on the basis of his motivation because he has not yet resolved the difficulties inhibiting action.

Lazarus (1961, 1966) has emphasized that the stories can also be told at another level, that of "playful fantasy" which is more directly governed by the primary processes. He suggests that this kind of story telling is more substitutive in nature and content will be negatively related to overt behaviour.

There would seem to be at least two other levels at which stories could be told. The first of these might be described as the level of "play". Some story tellers are able to use the Test literally as an exercise in imagination and may utilize it more as a

kind of humorous contest with the examiner than either a source of wish-fulfillment or of reality testing. Shrable and Stewart (1967) in a detailed analysis of the differences between subjects obtaining different kinds of score on the McClelland need-for-achievement scale, concluded that in many ways the storytellers who normally were to be found at the opposite poles of the scale were more similar in personality to each other (as measured by the Omnibus Personality Inventory) than they were to those who normally scored in the middle ranges of the scale. In addition the low scoring response, Unrelated Imagery (UI) "may tend to be associated with high ability in certain groups and reflect the rejection by these bright persons of conventional approaches to the task cues in the pictures. The subjective impression gained from reading the imaginative products of the UI groups (both college and high school level) is that their stories though often containing aggressive themes, frequently manifest humorous play with test stimuli".(pp1095,6).

A fourth level of story might be described as that given merely to carry out the task requirement. Murray described this as "chaff". The storyteller, in many research studies finds himself in a situation where he is required to complete a particular task, writing stories. The situation is unstructured to the extent that he is not told what the content of the story is to be. Although he can choose to draw upon his own

personality, it is also feasible for him to use cues available in his immediate environment. These include not only the clues present in the picture, but other models including that of the experimenter. Klinger (1967), in an experiment on the effects of "modeling", was able to increase the n-Ach scores of a group of student subjects who watched an actor relating achievement arousing instructions, on television monitors. They were unable to hear his instructions, however, and were provided with the standard neutral instructions instead.

There is no reason to think that these four types of storytelling are the only levels possible or that they may occur only singularly. Rather it seems feasible that any particular story may be the result of several processes.

Lindzey, in discussing the importance of the subject's interpretation of the testing situation has outlined even other possibilities. "It is obvious that there is almost endless variation in the respondents' interpretation of the testing situation and its significance for him. An individual subject may look upon the testing situation as a playful setting in which he is able to relax and respond without concern for everyday reality and constraint; he may look upon it as a threatening assessment in which his every thought and response is potentially capable of leading to dire and unpleasant circumstances, and where he must exercise

a maximum of alertness and caution to protect himself against harm; he may view the entire production as foolishness which he is willing to indulge for whatever material or indirect benefits he receives; or he may view the testing situation as closely related to known and significant activities and consequently he may be set to respond in an earnest and highly motivated fashion." (1961,p.167)

Obviously this variation in levels must present difficulties for scoring systems assuming isomorphism between test content and the storyteller's needs.

The Relations between TAT Content and Need for Achievement.

The assumption of "simple direct expression" of needs in TAT stories was made by McClelland and his associates in their earlier work. According to Atkinson (1961,p.72) this assumption "faded out" of the research at the time of Clark's findings about sexual motivation. (Clark,1952; Clark and Sensibar,1955). Nevertheless Atkinson (1961) still held to the belief that under arousal conditions some motives, including ambition and anger were expressed in manifest thematic content.

Richard Lazarus (1961) from his own and other data, has pointed out that there are occasions when the relationship will be indirect. Unfortunately, one of the key studies cited by Lazarus in support of his theory, that of Broverman, Jordan and Phillips (1960), used a

measure of achievement derived from Feffer's Role Taking Test. This technique differs from the usual form of TAT administration in that the subjects are required to repeat the stories from the viewpoint of various role figures (Feffer, 1959). However, there have been several recent papers which also cast doubt on the direct expression hypothesis. These findings are particularly important in that they conform on the whole to the techniques used by McClelland, Atkinson and their colleagues and thus are less open to the criticism of faulty methodology.

Klinger (1966) has reviewed the evidence of the relations between n-Ach as measured by the TAT and two other projective techniques to overt behaviour. He found that several aspects of the results (as obtained from published studies) cast doubt on the arousal theory of achievement imagery. In particular, in examining the relationship between TAT n-Ach and "molar" performance measures, (such as course grades), he found that about half of the relationships were insignificant. Many of the significant relationships were with children, and many of the insignificant relationships were with women. Of the relationships with adults, those relating n-Ach with past performance were significant as often as those with concurrent or future performance. Most of the studies with children measured n-Ach after the criterion performance. As Bendig (1958) has pointed out, a motivational

variable is usually expected to correlate more closely with future behaviour than with past.

Veroff, Feld and Gurin (1962), in a cross national sample in the USA found that for males n-Ach was related to religious affiliation. The Jewish respondents were highest on n-Ach. However, contrary to their expectations, it was the Roman Catholics who came second with the protestants third. Furthermore, when from the same sample, n-Ach was compared with occupation, a significant relation was found only for the 21-34 year old group (Veroff, 1964).

Some evidence in support of his theory (McClelland, 1961) is provided by McClelland (1965). When the occupations of Wesleyan graduates were compared with their n-Ach scores as students, some 14 years before, it was found that those with high n-Ach were more likely to be found in entrepreneurial positions. Unfortunately no details are given about the social backgrounds of the subjects, and it is therefore not possible to see what part this plays in the relationship.

In another longitudinal study, Skolnick (1966) found that actions in adolescence predict n-Ach much better than adolescent n-Ach predicts adult actions. Similarly upward social mobility or an increase in IQ was associated with higher adult n-Ach, but not adolescent n-Ach (McClelland, 1966). In his commentary on Skolnick's paper, McClelland suggests that TAT content does not measure motivation but thought.

Aggressive Motivation.

In a review of the relationship between aggressive content in TAT stories and overt behaviour, Murstein (1963) concluded "TAT aggression seems to be positively related to overt aggression, though not extensively so". (p.318). However it was not the direct measures of aggression which were related but the more complex indices which took the storyteller's account of the consequences of aggressive behaviour into consideration (1963, p.318). Murstein has also doubted the usefulness of such a broad concept as need for aggression. The situation still remains confused. Weatherly (1962) indicated that maternal permissiveness was a relevant variable. The results of Megargee (1966a) support Murstein's contention that one of the difficulties with measures of aggression is controllability of content, while in another study, Megargee and Cook (1967) found that TAT aggression was positively related to previous school record, but inversely related to ongoing aggression as observed by counsellors. This last finding corresponds to those of Klinger and Skolnick for n-Ach. In fact, examination of Skolnick's (1966) results indicates that for aggression also, the TAT measure is related backwards rather than forwards in time.

Despite somewhat dubious theoretical assumptions, as far as the nature of TAT stories is concerned, and not very promising results, content analytical measures

of motivation do not seem to have waned in popularity (1). Rather attention has been focussed on the part played by the pictures used in determining the relationship between motivation and TAT content.

The Effect of the Stimulus Value of the Cards on
Content-Analysis Scores.

As Murray (1951) noted, the characteristics of the card used are one of the main determinants of the story content. This makes an account of the role of the picture an essential aspect of any content-analysis method of TAT scoring. Furthermore there is evidence that anxiety is an important source of variance (Clark and Sensibar, 1958). Proposals have been

(1) Although a large number of relationships have been found between TAT n-Ach measures and other variables (cf. Atkinson, 1958; Atkinson and Feather, 1966; Byrne, 1966) it is still not clear that these relationships are due to the motivational effects of n-Ach, or to other common variables (Zubin, Eron and Schumer, 1965, p.434). Many of the relationships are weak or insignificant (Murstein, 1963) and could be readily explained by assuming that the content analysis measure of n-Ach is not a measure of motivation but of conscious concern and willingness to reveal that concern. McClelland himself would seem to be moving towards this position (cf. his 1966 article).

made that the effects of anxiety can be detected and estimated by the use of cards varying in ambiguity with respect to the anxiety arousing factor (Murstein, 1963, pp.69-84). For example, Kagan has suggested that it is possible to get round the effects of suppression or repression by the presentation of unambiguous stimuli (1960). Murstein has also suggested a similar approach, (1963, p.229). This question is of considerable theoretical importance for the content analysis approaches as it suggests a way in which some of the factors influencing the relationships between story content, motivation and behaviour can be detected.

In addition various researchers have made different assumptions and assertions as to the optimum amount of ambiguity which should be present in the picture to facilitate "projection". One difficulty is that different researchers tend to mean different things by projection, as discussed previously. A slightly more precise question is asked by Murstein (1963) : "Is ambiguity correlated with the projection of personality revealing responses ?" (p.171).

Nevertheless the concept of "personality-revealingness" as a unitary quality seems slightly dubious. The storyteller's personality is not revealed directly through a TAT but, if at all, in the specific inferences made by the test interpreter about specific aspects of the storyteller's personality.

Thus some of the differences of opinion are due to

different methods of analysis. For example Bellak (1944) states that "Projection will vary in amount inversely with the clearness of the stimuli and also inversely with the exactness of the instructions concerning the task". (p.363). Kagan, as mentioned above, has pointed out the value of highly structured cards. However, comparison of these two apparently conflicting viewpoints demonstrates the relevance of the scoring system implied. Bellak is implying that the unaccepted drive can be measured directly, in the TAT, by using ambiguous cards. Kagan on the other hand, is proposing that it can be measured indirectly, by noting its absence in a response to unambiguous cards as an indicator of a conscious or unconscious defensive process.

Thus, while it is meaningful to ask which cards are most useful with a particular scoring system, it is not at all evident that it is meaningful to talk in general terms about personality revealing responses without specifying the responses in question.

One way of trying to circumnavigate this problem is by using a general index of "projection". Thus several studies (Weisskopf, 1950a; Weisskopf, 1950b; Laskowitz, 1959; Kenny and Bijou, 1953) have examined the relationship between characteristics of the pictures and Weisskopf's index of transcendence. Transcendence is defined as the number of comments which go beyond pure description when the subject is asked to describe what he sees in a TAT card (Weisskopf, 1950a). A weakness of this index, pointed out by Murstein (1963, p.182),

is that it ignores the fact that certain of the pictures strongly imply the categories which Weisskopf counts as transcending the stimulus. For example, Card 6BM is usually seen as a son giving some unhappy news to his mother, because of the cues in the picture. Such descriptions would, however, earn transcendence scores for both the relationship and the unhappy news. Other studies have used verbal productivity (length of story) as an index of projection (Bradley and Lysaker, 1957; Welsh, 1964) or emotional words, (Ullman, 1957; Gurel and Ullman, 1957). However, all these indices are highly intercorrelated. Lindzey and Silverman (1959) found a correlation of 0.85 between Transcendence and Verbal Productivity, and Gurel and Ullman a 0.85 correlation between emotional words and transcendence. Welsh (1964) found that when word count, transcendence, personality revealingness, emotional words and theme count were intercorrelated and factor analysed the first principal component accounted for the major share of variance in each of these variables.

Thus, although the above studies seem to suggest, on the whole, that stories told to cards which are rated as being medium ambiguous will be longer or higher on transcendence, does this mean that the stories are more revealing of personality or that pictures which give the storyteller some clues but are not too stereotyped are easier to write stories about? Thus it is not clear that it is meaningful to talk about the extent to which a picture leads to personality revealing stories

without further specification of the scoring system.

A similar difficulty appears when attempts are made to operationalize the construct of "ambiguity" itself. Several different approaches are possible. Either the picture or the responses can be focussed upon. Clinical judges may be used, or representatives of the population with which the test is to be used. Murstein (1963) has suggested that a distinction should be made between "ambiguity" and "structure". Ambiguity refers to uncertainty about what is happening in the picture, while structure refers to the physical properties of the picture. Thus a card might show a figure clearly structured so as to represent a boy, and yet the picture might be ambiguous with regard to his feelings. Murstein has also demonstrated how the H statistic, suggested by Kenny (1961) can be used to provide an index of ambiguity. However, examination of the use suggested for this statistic indicates that it has a certain limitation and that, despite its apparent preciseness, it is still a rough and ready tool. Since this statistic has not yet been widely used, an outline of Murstein's use of it, and its theoretical limitations has been placed in Appendix A.

Generally, the difficulties in obtaining a precise index of ambiguity only appear when a non-specific measure of ambiguity is sought. There is less difficulty in measuring cards for their ambiguity with respect to particular measures, as ambiguity can then be defined in terms of sets of scores.

Stimulus Value of the Cards and the Discrimination of Measures of Motivation.

a) Need for Achievement.

Kagan (1959) and Haber and Alpert (1958) found highly cued cards to be more reliable over time. Murstein and Easter (1965) found highly cued cards gave most discrimination. However Murstein (1963) found that medium cued cards gave most discrimination and Veroff (1961) chose medium cued cards for a national sample. Low cued cards were found more effective by Haber and Alpert (1958). Atkinson (1950) found no difference between the discriminative power of high and low cued pictures.

b) Need for Aggression.

The findings about which cards best differentiate hostile from non-hostile groups are even more contradictory. Kagan (1959) found that highly cued cards gave scores which were most stable over time and another study (Kagan, 1956) found that aggressive and non-aggressive groups could be distinguished with this kind of card. Kaplan (1967) found that self rated hostility could be best measured by highly cued cards.

Stone (1956) on the other hand found cards with moderate stimulus pull to be more discriminating while Starr (1960) and Murstein (1962) found the cards which were ambiguous or had low stimulus pull were better.

In general then, it is hard to draw any firm conclusions about the use of differential cue relevance

of cards to improve the validity of content-analytic methods. Although there is some evidence of the usefulness of highly structured cards, there is still no evidence to reject suggestions such as that of Bellak (1944) that projection will increase with ambiguity. This is because if interpretations such as that of Epstein (1962) that low stimulus relevant cards provide for need expression, while highly structured cards provide inhibitory tendencies, are at least partially correct, then it may be that "projection" in the sense of "ascription of needs and sentiments which has oneself to the external world as a defensive process of which one is not aware" (Bellak, 1944, p. 362) is in fact facilitated with unstructured cards. On the other hand, highly structured cards may reflect the image of himself which the subject consciously holds or is trying to project. This in itself may be an interesting variable and would account for the relationships found.

In sum, although a great deal of work has been carried out using content-analysis as a method of TAT analysis, the overall results are not particularly encouraging, and hope for the future of this approach possibly lies in the construction of very complex models of what is happening including the relevant situational variables (such as modeling effects, Klinger, 1967), card characteristic, anxieties, inhibition and general tendencies such as repression / sensitization and so on. (Rotter, 1960; Atkinson and Cartwright, 1964).

Alternatively it may be that the content-analysis scores are too sensitive to the situational variables and that the error variance in the score will always be high. In this case these methods may still be useful for experimental purposes (Atkinson and Feather, 1966) but not for the purpose of the useful prediction of molar behaviour (Klinger, 1966).

Attention will now be focussed on some of the other kinds of methods available to see whether they offer promise of a more fruitful outcome.

Attitude Measures of TAT Content.

Although much of the research on the TAT has sought connections between story content and needs, it is noteworthy that Murray himself did not see needs as being the only aspect of personality revealed on the TAT.

In his 1943 manual he proposes two tentative assumptions :

A) The attributes of the heroes represent in the past or anticipated future :

- 1) things the subject has done.
- 2) things he has wanted to do.
- 3) elementary forces which have never been entirely conscious.
- 4) feelings and desires he is experiencing at the moment.
- 5) anticipations of his future behaviour.



B) Press represents forces in the subject's environment :

- 1) situations he has encountered.
- 2) situations he has encountered in fantasy.
- 3) the momentary situation.
- 4) situations he expects to encounter, would like to encounter, dreads to encounter, etc...

Although Murray put these forward as working hypotheses only, considerable evidence can be found in support of the various points. However the importance of the above list lies in the fact that it shows that it was envisaged that the TAT reflected not only needs, but also other aspects of the subject's personality such as expectations, ideas, feelings, evaluations and plans, as well, of course, as the ways in which he perceives his environment.

Compared with the work on the content-analytical measurement of needs, studies of the respondent's belief systems as reflected in the TAT are relatively few. However several such approaches have been outlined, especially in the last ten years (Arnold, 1962; Coelho et al, 1962; Schneidman, 1961; Whitely, 1966).

One of the earliest uses of this approach was that made by White (1933). This in turn influenced Tomkins (1947) who noted that White found that the seven most hypnotizable subjects all stated explicitly in their stories that the hypnosis was a success, but the remaining eight made this point incidental, merely implied

it, expressed repugnance for hypnosis or explicitly declared it a failure (Tomkins, 1947, p. 18).

White (1938) reported that when the hypnotist, using data from Diagnostic Council, Conference, Autobiography and Childhood memories made a prediction as to a hypnotizability index, the correlation was 0.5. When the response to TIT card 12M was included the correlation was 0.7.

Several studies using a variety of scoring methods have been carried out since, but they have provided varying results for men, and predominantly negative results for women. Levitt, Rubin and Brady (1962) have suggested that the latter result may be due to the fact that the subject in card 12M is usually seen as a male figure and is thus not identified with by females.

Dana and Cooper (1964) carried out a cross validation study using 12 previously used variables with male college students. 3 out of the 12 discriminated at the .05 level of significance between the high and low scorers on the Stanford Hypnosis Susceptibility Scale.

These were : "Attitude towards hypnosis".

"Estimate of hypnosis".

"Benevolence v. non benevolence."

The authors note in conclusion "Those studies which found positive results also relied primarily on clinical judgments of acknowledged experts. (Sarason and Roserzweig, 1942; White, 1937). This suggests that the relevant variable in successful validity studies may

be the skill of the judge rather than the specific content of the TAT story" (p.210).

However, examination of these scores also shows that two of them were also measuring the respondents' attitudes towards hypnosis.

Is it possible to have a method which allows for the recording of the interrelationships in the content, but which is more explicit and less intuitive than purely clinical judgement ? Tomkins noted in 1947 that a "language of interpretation adequate for all TAT protocols will, we venture, also be adequate for any type of personality analysis. Such a language is still to be achieved. What we offer towards such a conceptual scheme can, in view of the stage of development of our science, be but a short step in that direction." (p.26).

Tomkins considered that the concepts of need and press used by Murray were in some cases too general. Rather he proposed finer and more flexible units. However the most salient characteristic of Tomkins' new approach was the way in which he made use of Mill's canons of logic in order to make inferences about the subject's belief-system.(1)

(1) "As applied to TAT stories, Mill's method of agreement requires two stories in which a common effect is preceded by only one other common condition. This common condition is then the cause of the common effect.

However, this method assumes that the subject has written a large number of stories, often the full set of 20 cards. A further difficulty with this method is that Tomkins' scoring system of vectors, levels, conditions, qualifiers and objects is unwieldy. A sample analysis of a 54 word story took several pages to describe fully using this method.

This approach has been adapted for clinical use by Korchin (cf. Shneidman, 1951) but does not seem to have been widely adopted.

The nature of these limitations is not unimportant since it tends to affect many of the scoring systems of this kind. However, despite these difficulties, Tomkins' approach is important in its emphasis on the fact that the key to the prediction and understanding of behaviour from the TAT may lie in the analysis and interpretation of the relationships within the TAT itself.

For example, in discussing aggression, the following proposal is made : "the hero may, for example, commit an anti-social act for which he is not punished but then

According to the method of difference, two stories must be similar in every respect but one; this difference is then the cause of the difference in outcome". (p.54). Tomkins extended this approach to "either or both of two factors as sufficient cause" and "multi-factor analysis".

suffers an accident which is not connected by the hero or the storyteller to the crime for which it might have been a punishment. This may be taken to mean that the individual is not altogether aware of the connection between his own anti-social impulses and punishment which he expects". (Tomkins, 1947, p. 217).

Another similar approach is that of M.B. Arnold (1962). Arnold's scoring system has evolved over some time (cf. Shneidman, 1951) and was expounded in detailed form in her book "Story Sequence Analysis". Like Tomkins, Arnold considers that interpretation should not be based on part of one story, nor even on the individual story itself but rather on the whole protocol. Her method of achieving this end is by requiring the interpreter to summarize the meaning of each story in a short resume called an "import". The imports are then read consecutively and Arnold claims that a continuity and development of meaning is often found. To date, Arnold's main focus of research has been that of "positive attitude". This concept stems from Arnold's own philosophical viewpoint (Arnold and Gasson, 1954). She believes that "man is responsible for his motives, his intentions and actions but he is not responsible for his emotions" (p. 221). Nevertheless he is still expected to find ways of controlling these. A system of classifying imports yields a five point index for each story. Arnold and her colleagues found this

index to be correlated with a wide range of variables including pupil ratings of teacher ability and the Grade Point Averages of students. The interscorer and split half reliabilities of the index reported by Arnold (for the TAT) are also high. One reviewer, Sechrest (1968) has commented "All these investigations add up to the most favorable picture ever obtained for the validity of any method of scoring the TAT" (p.598).

One drawback to these studies is that they have all been carried out by Arnold, her colleagues or her students. To the writer's knowledge there is only one such study which has not been carried out within this circle and this has involved an adaptation of the basic TAT procedure (Winter, Ferreira and Olson, 1965). Three person families were given three sets of three TAT cards, and had jointly to make up a story using the three cards within five minutes. If they had not succeeded then they were allowed an additional minute. Four types of families took part in the study, classified according to the status of their children. They were normal, emotionally maladjusted (but not schizophrenic or delinquent), schizophrenic and delinquent. Significant differences were found between the normal and the other kinds of families but no differences were found between the "abnormal" categories. The interjudge reliability was 0.80. It was found however that the first two sets of cards did not differentiate between the

four groups of families but the third set did. This conflicts with Arnold's judgement that for her method the nature of the cards used is relatively unimportant. However this contradiction may be due to the unusual method of obtaining the stories.

In a further analysis (Winter, Ferreira and Olson, 1966) using measures of hostility some further differences between the groups were found, though not between the normal and schizophrenic families. Thus, from these studies, Arnold's measure would seem to be a general index of adjustment/pathology which has the advantage and disadvantage of overlooking finer distinctions in the protocols.

In view of the promise of this approach it was used in this study and further details of the method and results are given in later sections.

At the theoretical level, one feature of this approach, as Sechrest has noted, is that it requires a good deal of plain, old fashioned intuition on the part of the interpreter.

Arnold's line of research also seems to have influenced the work of Birney and his colleagues on fear of failure (Birney, Burdick and Teevan, 1969).

An important distinction must be made between portrayal of negative press and how the hero responds to it. In Arnold's theory, for example, portrayal of a hostile press might simply be a reflection of the person's background or of the stimulus qualities of the

picture, however, what would be important is the way in which he reacts to it. This might be part of the reason why Arnold measuring Positive Attitude, and Birney, Burdick and Teevan measuring Hostile Press both obtain correlations with grade point average.

This distinction between the press and the hero's response to it is not new and has been made by Semeonoff in his adaptation of Wyatt's scoring system. These studies will be referred to in detail in Section Six. Semeonoff (1958) found that measures of press did not distinguish between accepted and rejected candidates for Marriage Guidance Counselling. But accepted candidates did write more stories in which ambiguous press was met with a positive attitude by the hero.

A similar kind of scoring system has also been arrived at from a different theoretical viewpoint by Coelho and his collaborators (1962). These researchers took White's concept of "Competence" as their starting point. A special set of cards which pictured problems which were likely to be encountered by (American) college students. A special measure of "Coping Behaviour" was also devised to measure the way in which the heroes of these stories responded to these problems. The test was then given to three groups of college freshmen and it was found to differentiate between a clinically disturbed group and two normal groups of freshmen.

These findings were replicated with Puerto-Rican

students. (Field et al, 1962).

A similar kind of rationale has also been used by Whitely (1966). Starting from a psychoanalytic viewpoint Whitely constructed a measure of "adaptive ego functioning" which bears considerable resemblance to the above approaches. The heroes of a group of superior school achievers were more adaptive in their handling of needs and press, more often accepted responsibility for their behaviour, and were better able to control their impulses in the handling of conflict.

As both these scoring methods showed considerable promise they were used in this study and are described in more detail in Section Six.

In general then, it is quite impressive that studies which have focussed on attitudes rather than needs seem to have obtained positive results. However the number of studies carried out is still comparatively small. Furthermore most of the studies have been carried out by the originators of the scoring systems or their colleagues which, despite good methodology, always leaves room for an "enthusiasm effect" (1) (as distinguished from an experimenter effect).

(1) Since the component of 'clinical' judgement in these methods is greater than in content analytical methods this means that to a certain extent the effectiveness of the scoring method must be dependent upon

The central, if sometimes implicit assumption underlying these approaches is that in constructing a TAT story, the storyteller will make use of those assumptions which he holds about his social world and himself. Thus if he believes that problems can be solved through active effort then he is likely to reveal this belief in his stories. This must be a tendency and not a certainty however. If the storyteller is aware of his attitudes, then it is possible for him to conceal these, if he can do so within the time constraints of the test. Nevertheless this hypothesis seems to be a not unreasonable one.(1).

Perhaps the greatest difficulties in this approach lie not in the underlying assumptions but in the methodology of measuring them. While it is possible to use the TAT as the basis for a morphogenic approach such as that of Tomkins, the practical and theoretical difficulties are considerable. It is not surprising that "attitude" approaches have tended to deal with common attitudes such as the storyteller's beliefs about the manageability of the social world, which make dimensional approaches feasible.

A second problem lies in the measuring of these

the "good will" of the scorer.

(1) "Unless he is unusually suspicious, creative, or evasive, it is far easier to the subject to think in his own direct experiences." (Molt, 1961, p. 196).

attitudes. Essentially, what is being measured is an assumption which is indicated only in the relationship between different aspects of the manifest contents. Since the number of possible combinations of content is too large to specify completely, this means that somewhere along the line in the interpretive process, the scorer has to do some enlightened guessing.

Thus the attitude of the scorer is likely to be particularly important with this kind of scoring method as the component of intuitive judgement is greater than that in content analysis approaches. This is reflected in the lower coefficients of interscorer agreement. Whitley found that when assigning TAT stories to an adaptive-maladaptive category, the percentage of agreement for the raters ranged between 48% and 55%. The Kendal Coefficient of Concordance was used to test the degree of overall association among the three judges, and ranged from .55 to .65 (p.17). Field and his associates (1963) found an interscorer reliability of .71, while Coelho et al found 84% to 86% interrater agreement.⁽¹⁾

In comparison using a content analysis method Birney, Burdick and Teevan (1969) report that an interscorer reliability of .90 for Press Dominance can be met after two weeks' training. This figure has also been reached in many of the n-Ach studies although some

(1) However the use of percentage agreement has been criticized by Murstein (1963, p.156).

results have been reported with much lower figures (e.g. Argyle and Robinson, 1962).

The only non content-analysis measure to reach this level is that of Arnold's who reports that interscorer agreements of from 50% to 97% between various scorers have been obtained.

However, what counts is not only the maximum reliability obtainable but also how long it takes the scorers to reach this point. Unfortunately detailed figures are rarely given on this point.(1)

Generally then, it must be accepted that at the moment measures of attitude which are not based on content analysis tend to have lower interscorer reliabilities, and in this sense are more subjective. Lower interscorer reliability need not always result in lower validity as Magnusson (1959) has demonstrated, and the validity of these approaches looks favourable.

One important question is whether all that is not conscious is "unconscious". We may in a sense be unconscious of our conscious attitudes, in the sense that we lack any frame of reference by which to describe them. The racial bigot, in a society where racialism

(1) Murstein, in reporting percentage agreements in the nineties between two scorers notes: "this agreement resulted from countless hours of practice, and novice scorers would undoubtedly show considerably less agreement." (1964a, p.212).

is endemic may deny that he holds any such attitudes. This kind of consideration may well apply to the TAT (Scheerer, 1953; Smail, 1966). Arnold has reported, for instance, that low scorers on the motivation index were able to distinguish between "desirable" and "undesirable" stories, when given the actual stories. One consideration in favour of the TAT is that because the subject has only a very limited time in which to write his story, he is less likely to pay attention to desirability factors, even if he suspects what is going on, and although he may control the content of his stories, he will be unable to develop a completely new set of assumptions about the world on the spur of the moment.

Formal Variables : TAT Performance as Behaviour.

As has been noted in one recent review of the TAT (Dubin, Aron and Schaner, 1965, p. 455) there has been an increase in studies of the structural aspects of TAT stories, in both clinical and research applications. This may be in part due to the increased interest in ego-psychology within the psycho-analytic movement.

The use of formal variables is not new and many formal aspects of stories were outlined in Wyatt (1947). These included story v. description, stimulus perceptions, time trend, level of interpretation, and quality of telling. The scoring systems proposed by Bellak, Henry and Piotrowski, which Hurstein (1963)

criticizes for being "non-quantitative", also contain many elements which have later been elaborated and quantified by others.

One earlier user of formal as well as content variables is Eron (1950) who found that it was formal rather than content factors which distinguished the protocols of schizophrenic and other hospitalized patients from each other and from those of normal subjects. (Zubin, Eron and Schumer, 1965, p.455).

Dana (1955, 1956a, 1956b, 1956c, 1959a, 1959b, 1960) has constructed a simple rating of the formal aspects of the TAT. Originally using three measures; Perceptual Organization, Perceptual Range, and Perceptual Personalization respectively. Of the three, Perceptual Organization seems the most useful and has been studied more extensively than the other two. The three variables were found by Dana to distinguish between groups of neurotics, normals and psychotics (Dana, 1959a). Furthermore he also reports (1959b) that "all cards are approximately equivalent stimuli. It makes no difference which cards are used" (p.509) and that the results obtained from five cards are equivalent to those obtained from the whole set of twenty.

In a further study Nawas (1965) found that perceptual organization and range were related to estimates of maturity and complexity measured by the Rop Test (Kelly, 1955).

Dana has also indicated that the interscorer re-

-liability is high for Perceptual Organization (88% - 94%).

Since this approach seemed promising, it was incorporated in the empirical studies.

Singer and Wynne (1966; Wynne and Singer, 1963, 1965) have developed a way of scoring the TAT for "communication defects" and have found that this distinguishes the parents of schizophrenics.

Foulds (1964) has also found organization in TAT stories to be related to psychiatric classification, and length of hospitalization.

Lindzey and Newburg (1954) found that formal measures were more encouraging than content variables as "signs" of anxiety.

Thus formal variables would seem to provide an index of "health/psychopathology".

Tooley (1967) has also suggested that style of storytelling might be related to defenses.

On the positive side, Epley and Ricks (1963) have devised a method for measuring a person's orientation in time from his TAT stories. Prospective time span is the length of time from the present, usually the event in the picture, to the end of the story. Retrospective time span is the time from the beginning to the present. Working with 29 Harvard College students taking part in an extensive assessment program, many interesting relationships were found between the measures of time span and the other data available on the

subjects. In the words of the authors "Prospective span was shown to be related to high academic achievement, low anxiety and empathic involvement with others. Retrospective span was shown to relate to narcissism, sensitive imaginativeness and openness to experience" (p.57). However the size and exclusiveness of the sample hardly makes it typical even of American college students. However a second study (Ricks, Ummarger and Mack, 1964) was carried out with delinquent boys and a change in prospective span was found to relate to three of four indices of success of treatment. Change in retrospective span was related to only one of the four indices. These results suggest that prospective span is some kind of index of "adjustment". Furthermore it may be a particularly suitable kind of measure to obtain from the TAT because, as the authors of the second article note, it is unlikely that the storyteller will think of time span as a desirable variable, and thus the variable is likely to be immune from faking or defense reactions.

Kegan (1961) has also found a modest relationship between the use of affect words in the TAT in early adolescence and other conceptually related variables on other instruments including 0.44 phi correlation with Human Movement and biserial r of 0.62 with interview ratings of introspectiveness, when the subject was an adult.

Shneidman (1961) has proposed that TAT protocols should

be examined for their "psycho-logic". However he has not, as yet, provided any worked out scoring system.

Semeonoff (1956, 1958, 1959) has also used a variety of formal variables in his comparisons of accepted and rejected marriage guidance candidates. These are discussed in detail in section 5.

Holt (1958) however, found many low correlations between formal variables and various criteria.

In general there is considerable evidence that formal variables may provide very useful measures of behaviour. Indeed in their review Kubin, Eron and Schumer (1965) have suggested that measures of "formal" aspects of behaviour tended to hold up better than the "content" aspects. (p.455,456).

Although formal variables avoid some of the theoretical and methodological problems affecting content based measures, they do present difficulties of their own. In the first place, their apparent simplicity is somewhat deceptive and interscorer reliabilities can be quite low (cf. Holt and Luborsky, 1958, and results of study B.). Secondly, even after a scoring system has been devised and then "validated" the question can sometimes be still asked, "But what does the score measure?" (Dana, 1960). This problem can to some extent be overcome if isomorphism is assumed between test and non-test behaviour. However this can be a difficult process. For example, on this basis Verbal Productivity has been labelled Verbal Fluency. However

although related, these two variables only share a quarter of their variance and are by no means synonymous (Webb and Hilden, 1953). Thus it is important to verify empirically relationships derived on theoretical grounds.

SECTION 4

CHARACTERISTICS OF COUNSELLORS

CHARACTERISTICS OF COUNSELLORS

The Distinction Between Counsellors, Therapists and Psychiatrists.

No systematic distinction will be made between different forms of counsellors and therapists as the areas of overlap are too great to make any simple distinction worthwhile (Patterson, 1966). For instance, American "counselors" are often post-graduate psychologists and are likely to receive a similar range of theoretical background to that of psychiatrists. In addition the most recent theories of counselling tend to be general to the whole field, and beyond (Bierman, 1969; Rogers et al, 1965; Carkhuff and Berenson, 1967).

The level of academic qualification is obviously important, but other factors may be even more relevant. For example, a school or college counsellor is likely to be dealing with vocational problems (Warman, 1960) at least as far as his client is concerned, but is likely to have a high degree of qualification, while the marriage guidance counsellor in this country, although usually less well qualified is more likely to be dealing with interpersonal relations and in this particular way is more similar to the psychiatrically trained therapist than she may be to the college counsellor.

Therefore, any classification would have to be at

least a two dimensional one of area, and level of qualification. Bearing in mind the comparatively sparse literature on the characteristics of counsellors, restriction of the kinds of counsellors considered is therefore undesirable.

Furthermore there is evidence that certain kinds of process are common to various kinds of counselling from work with chronic schizophrenics (Rogers et al, 1965) to short term counselling with clients at school (Demos, 1964).

Studies of "counsellor" characteristics.

These studies were usually of one of two kinds. In some studies the author listed what, in his experience, were the desired characteristics of a counsellor, and the listing was usually in terms of everyday concepts such as "patience", "flexibility", "objectivity". In most of the others standard personality inventories were used and the results are described in terms of the scales of the tests. A minority of the empirical studies have been concerned with the production of a "counsellor" scale, the most notable group of studies in this approach being that of Cottle and his colleagues (Cottle, Lewis and Penney, 1954).

Descriptions of the Ideal Counsellor.

Cottle (1955) describes the results from seven such studies. The results from another seven more

TABLE 4-1. Stated Characteristics of Counsellors.

Tolerance		+				+				+
Warmth, kindness		+				+	+			
Interest		+				+	+	+		
Friendliness, approachability	+	+	+							
Sense of humour		+				+				
Tact, ability to get along with people		+	+							+
Sincerity		+	+					+		
Patience		+					+	+		
Understanding	+	+	+							
Respect							+			
Intelligence		+								+
Broad knowledge, interests	+	+		+						+
Flexibility, adaptability		+		+		+		+		+
High original thinking								+		
Objectivity, good judgement	++	+	+	+		+	+			++
Social culture		+	+							
Training, education						+	+			
Ability to see beha- viour as expression of feeling										+
"Personality"		+				+				+
Leadership		+								
Positive att.		+						+		
High vigour						+			+	
Health		+		+						
	a	b	c	d	e	f	g	h	i	j
	k	l	m	n	n					

Emotional stab.	+	+	+		+	+			+	+	+
Sense of mission	+										
Neatness		+									
Integrity			+		+						
Low ascendancy									+		
Low ach.									+		
Low order									+		
Prof. att.	+										
Self knowledge	+			+				+		+	
Intuitiveness								+			
Constructive criticisms					+						
Capacity to be trusted						+					+
Low hostility										+	
	a	b	c	d	e	f	g	h	i	j	k l m n

Sources :

- a) Bailey, 1940, as reported in Cottle, 1953.
- b) Cox, 1945. "
- c) Graves, 1944. "
- d) Graver, 1948. "
- e) Yarborough, 1946. "
- f) Bowler & Dawson, 1948. "
- g) National Vocational Guidance Association, 1949. "
- h) Arbuckle, 1956.
- i) Bannister et al, 1955.
- j) Baro, 1967.
- k) Bettelheim, 1966.
- l) Tyler, 1961.
- m) Wallis, 1968.
- n) Holt, 1952.

recent studies are presented with these in Table 4-1.

From this table it can be seen that there is little consensus in terms of description of the ideal counsellor. However certain qualities do emerge with some regularity. Mentioned most (8 times in 14 studies) are those of objectivity, good judgement and emotional stability. It should be noted however that references to the former are mainly from the earlier studies discussed by Cottle, and its decline in popularity may be due to the growth in the influence of the "client-centered" approach. Other features mentioned fairly often are those of interest in people (4 mentions), broad knowledge and interests (4), flexibility and adaptability (5) and self knowledge (4).

Empirical Studies of Counsellor Characteristics.

Generally, there is only a partial overlap of the qualities listed above and the qualities found in empirical studies. There are two possible reasons for this. The first is that the authors have been at least partially mistaken in their impressions of the qualities which are relevant to success in counselling. The second is that the kinds of constructs which have been built into the standardized psychological tests may not be those used in everyday language (Bromley, 1968).

The first possibility can be examined by considering the areas of overlap in the constructs used.

a) Emotional Stability.

Several of the instruments used include scales of

emotional stability or related constructs.

Using the MMPI, together with a large battery of other tests, Kelley and Fiske (1951) in their study of the characteristics of clinical psychologists found that the MMPI predicted the criterion. Arbuckle (1956) working with American post-graduate counselling students used a sociometric technique by which the students nominated those of their peers from whom they would be most likely and least likely to seek counselling. On this basis six highly preferred and six least preferred students were chosen from the initial group of 70. The Heston Personality Inventory, MMPI and Kuder Preference Record were used. The six highly preferred students were lower than the 64 remaining students on the Hypochondria, Depression, Paranoia, Hysteria, Schizophrenia, Social Introversion and Psychasthenia scales of the MMPI. The least preferred students on the other hand were higher than their fellows on the Hypochondria, Paranoia, Hysteria, Psychopathic Deviate and Hypomania scales.

These studies conform with the descriptions given.

However Brams (1961) reports a contrary finding. Here the Communications Rating Scale of Anderson and Anderson was used as the criterion measure. Ratings on the scale were of tape recordings of interviews made by each counselling student. The ratings were made by experienced judges (the criterion group) and also by the students themselves and their peers. The

tests used included the MMPI, The Manifest Anxiety Scale and the Index of Adjustment and Values. No relationship was found between the criterion and any of these measures. The correlation between the ratings of the judges and peers was 0.73, those of the peers with each other ranged from 0.81 to 0.95, indicating a modest degree of reliability. The correlation between the self ratings and those of others was low, 0.21 and 0.22, this being attributed to the fact that all the students rated themselves high on communication.

In an abstract of an unpublished thesis, Cunningham (1967) also reports finding no relation between the MMPI and staff ratings of counselling trainees, who in this case were teachers.

One simple explanation of these contrary results is in terms of the increased familiarity of the "educated public" with the MMPI and the related scales which should make it considerably easier for them to "fake good".

Wrenn (1957) found that student personnel workers were higher on stability on the Guilford-Zimmerman Scale of Values, but Cunningham who also used this instrument did not find any relation between the stability scale and his criterion.

Luborsky (1952) in a study of more and less successful psychotherapists reported that "the tests show

personality disturbance in both groups but more pervasive ones in lows". (p.337).

The combined results of these studies suggest that although stability may be perceived as an important variable it has not yet been adequately operationalized to be useful for selection purposes.

b) Good Judgement.

Another widely mentioned variable is that of objectivity or of "good judgement". Unfortunately few of the variables measured are relevant to this variable. This may be partly due to difficulties in operationalizing what "accurate" judgement is. (Secord and Backman, 1964, p.81). As previously noted this construct seems to have gone out of fashion, and has possibly been replaced by concepts such as "accurate empathy" which will be discussed below.

c) Interest in the client.

Interest in the client has been mentioned on several occasions as being relevant to counselling. Several of the tests used are relevant to interest in people.

The KPR.

The Kuder Preference Record has been used by several of the early studies cited by Cottle. Kaback (1948) working with Nurse Counsellors found that they were high on the Artistic, Literary and Social Service Scales but low on the Mechanical, Persuasive and Clerical ones. Michael (1949) studying Vocational Rehabilitation Counsellors found them to be high on the Persuasive, Literary and Social Service scales and low

on the Mechanical, Computational, Scientific, Artistic and Clerical ones. Baas (1950) in a study comparing Consulting and Guidance specialists with other psychologists found few major differences between them. Both groups were high on the Computational, Scientific, Literary and Social Service scales.

Arbuckle in his study using peer ratings of counselling students as the criterion found that the highly preferred students were highest on Social Service, Persuasive, Literary and Scientific scales.

As can be seen from these results the only two scales which are common to all groups are the Social Service and Literary scales. This pattern has also been found to be characteristic of Clergymen, Social and Welfare Workers, Teachers and Secondary School Principals. (Kuder, 1960). The Social Service scale indicates the interest in helping people and the scores on the Literary scale may be in part a reflection of the educational level of the students.

SVIB.

Cottle also reports two studies where expected differences were found on the SVIB. Brown (1946) found that counsellors had high interests in professions dealing with people, while Kriedt (1943) found that psychologists in guidance, compared with those in other specialities deviated in the social service direction.

Other Scales.

Wrenn (1952) using the Allport-Vernon Study of Values with a group of counselling students found them

to be highest on the theoretical and religious scales.

d) Broad Interests.

Another variable mentioned on several occasions was that of having broad interests and knowledge. No direct measure of this has been found but the literary interest of the counsellors mentioned above can be interpreted as supporting this characteristic.

e) Flexibility and Adaptability.

Flexibility and Adaptability were mentioned by several authors. One way of operationalizing this construct is in terms of the California F scale and Rokeach's dogmatism. Both of these have been found to be related to counselling ability.

Wallis (1968), in a particularly relevant work on Marriage Guidance Counselling in England describes how the F-test was found to be related to the selection process. The F-test was given to all the candidates for counselling during the course of one year. The scores on this variable were not available to the selection boards. After scores for some 250 candidates had been obtained the relationship between the F-test and the outcome of the board was calculated. The relationship indicated was close enough to enable the F-test to be used as a screening test in future selection. (1)

(1) The selection policy of the "National" and Scottish Marriage Guidance Boards differs slightly, one difference being that the "National" selection boards have a higher failure rate. It does not necessarily follow

In another study using Rokeach's Dogmatism scale, Kemp (1962) found an effect of Dogmatism on the training of counsellors. As well as taking the Dogmatism scale the counselling students had to answer a questionnaire about how they would handle hypothetical counselling problems before and after practice in counselling. Furthermore, extracts were taken at random from the counselling interviews of the students and these were scored by a judge on the Porter Test of Counselling Attitudes. (Porter, 1949).

In the "hypothetical" conditions the students scoring high on dogmatism had fewer "understanding" and "supportive" responses. However as a result of training the group high on dogmatism changed the character of their responses in the "hypothetical" situation. But in the actual counselling situations, the group high on dogmatism changed significantly in the character of their responses from the hypothetical to the actual situation. In the actual counselling situation the dogmatic students had fewer understanding and supportive responses and more evaluative, interpretative and probing or diagnostic responses.

The authors' explanation was that the students

that even if the same strength of relationship was found between the F-scale and the outcome of the Scottish selection boards, that it would be feasible to use it as a screening test for the Scottish Boards.

high on dogmatism were able to discover the "right" responses as a result of training and could give them when answering a questionnaire, where they had time to consider carefully what the appropriate answer was. In the actual counselling situation they did not, of course, have this freedom of time and therefore they responded in terms of their "genotype" rather than in terms of "phenotype".

If this finding is replicated it will be an important one, not only for the counselling process but also because of the implications it has for personality measurement.

A third study relevant to the construct of "flexibility" is that of Brams (1961). In this study, previously mentioned, the Berkeley Public Opinion Questionnaire was included as a measure of "tolerance of ambiguity". This variable was found to be related to the criterion of peer ratings, although the MMPI, and the Taylor Manifest Anxiety Scale were not.

These studies suggest then that some kind of flexibility is very relevant to perceived ability in counselling. One point of ambiguity is whether or not the scales used above are referring to an aspect of cognitive ability or of political attitude.

Gee (1967) in an abstract of a study of values of American Marriage Counsellors reports that they had generally liberal values, being most liberal in family and sexual values, and less so in political, economic

and religious values, and that they were less concerned with defending the norms of society than of promoting the happiness of individuals.

This suggests that it may be the social rather than the intellectual component of flexibility which is relevant.

f) Self-knowledge.

Self-knowledge was also one of the variables mentioned by several authors. Unfortunately there are comparatively few studies of this variable. One of the reasons for this is of course lack of any convenient measuring technique, as assessment of this variable requires both an indication of the person's self-perceptions and also some "independent" record of what he is.

One variable relevant to this is that of Truax's "Self-Congruence" of therapists which will be discussed below.

Other Variables.

So far the variables discussed are those which have been mentioned frequently in lists of characteristics of counsellors. Several other variables have been measured. These include the results on the more orthodox personality tests and Combs and Sopers (1963) work on "Perceptual Organization".

Personality Measures.

A) The Edwards Personal Preference Schedule (EPPS).

Cunningham (1967) used the EPPS along with a variety of other tests, including a sociometric measure of "Projected self confidence". The criterion was staff ratings of teachers who were counsellors in training. The Heterosexuality and Aggression scales were found to be related to the criterion.

B) The Guilford-Zimmerman Temperament Survey.

This was also used by Cunningham and the Objectivity score was found to be related to the criterion.

Wrenn (1952) found student personnel workers to be high on this scale as well, and also on the Restraint, Emotional Stability, Friendliness, Objectivity and Personal relations scales.

C) Heston Personality Inventory.

Arbuckle (1956) found the most preferred counselling students to be high on the "Confidence" scale and the least preferred students to be lower on the "Home satisfaction" scale.

D) Bernreuter.

Kaback, reported in Cottle (1953), found nurse counsellors to be high on emotional stability, positive self sufficiency, extroversion and dominance.

Studies using the MMPI have been discussed under Emotional Stability.

E) Thematic Apperception Test.

This is discussed in the following section.

Intelligence and Ability.

Abeles (1953) used a wide range of ability measures. He reports "difference in ability (beyond the basic level) did not play an important part in determining assessed counselling proficiency for male trainees". (p.2205)

Cunningham also failed to find intelligence relevant to the criterion, but Luborsky (1952) found that less successful psychotherapists were significantly lower in verbal intelligence.

Semenoff (1953) found intelligence to be related to acceptance by the Scottish Marriage Guidance Council Selection Boards.

Any discrepancies are likely to be more apparent than real. Most of the American work is with post-graduate students who are likely to be fairly homogeneous in terms of intelligence, whereas Semenoff's subjects come from a wide range of educational backgrounds and have a wide range of ages.

Perceptual Organization.

Combs and Joper, in a recent study found that "Perceptual Organization" was related to the ranks given to counselling students by a consensus of their faculty board.

The scoring on "Perceptual Organization" was carried out by four post-graduate research assistants, on

four "human relations incidents" which the students had to write about in conjunction with a personality course they were taking. There were 12 variables : these being 1) Internal-External frame of reference, 2) people-things orientation, sees people as 3) able-unable, 4) dependable-undependable, 5) friendly-unfriendly, 6) worthy-unworthy, sees self as 7) identified-unidentified, 8) enough-not enough, 9) revealing-not revealing, sees purpose of counselling as 10) freeing-controlling, 11) altruistically-narcissistically, 12) larger-smaller meanings. All the correlations between the criterion and the variables were significant at the .05 level (and ten of them at the .01 level) and they ranged between .45 and .64. The correlation between the total scale and the criterion was .58 (sig. at .01).

Artuchle and Nicas (1957) also report the development of an instrument for the measurement of counselling perceptions. So far they have found a high degree of agreement among the experts regarding their response behaviour in the structured situations represented by the test items.

From these results it can be seen that although consistent differences have been found between counsellors judged as good and those judged as poor and between counsellors and non-counsellors, there is little evidence for what might be called a counsellor personality. Generally these studies indicate that

the counsellor has a certain level of intelligence, an interest in people, is low on authoritarianism and tends to see people in a desirable light. The desirability of these characteristics is not restricted to counsellors, although they may be essential for them. They do not constitute a model of the counsellor personality.

The Nature of the Therapeutic Relationship.

Rogers has suggested three characteristics which might be important in determining the outcome of therapy. These were the realness, genuineness and congruence of the therapist; a warm accepted prizing of the client, an unconditional positive regard; and a sensitive understanding of the client's feelings which is communicated to the client. (Rogers, 1965).

These suggestions have given rise to a considerable body of research with one of the standard techniques being the rating of tape-recorded extracts of interviews for these variables and the relating of these to independent assessments of the outcome of therapy. This approach has given rise to several interesting results, including the finding that schizophrenic pa-

-tients who were in a good relationship (i.e. the above factors present) improved, while those who were not in such a relationship deteriorated (Truax, 1963).

The three factors of unconditional positive regard, accurate empathy and counsellor congruence have also been found to be relevant to psychotherapy with neurotics (Carkhuff and Berenson, 1967).

More recently Carkhuff and Berenson have suggested the addition of a fourth variable, that of concreteness of communication (1967).

Although many positive findings have been reported some of them as yet unpublished (Gendlin, 1967), there is still a certain amount of reservation by other researchers (Patterson, 1966). One difficulty is that most of the work to date has been done in the same "family" of researchers, and secondly occasional negative results for one or other of the variables have appeared. Demos (1964) found congruence unrelated to the outcome of ratings of counsellor competence. Heiser (1961) found empathy unrelated to counselling progress.

These results may be due to differences in the methods used, or in the unreliability of the criteria where ratings of competence are made (Schumacher, 1967).

It is also possible that there are several styles of relationship possible so that counsellors who were high on two of the variables might not need to be high on the third. Relevant to this possibility is the

study by Rosen (1967). Truax's scales of Self Congruence, Unconditional Positive Regard and Accurate Empathy, based on judges' scorings of the samples of interview recordings were used as the criteria. The counselling students were given the Allport-Vernon-Lindzey Study of Values, the Strong Vocational Interest Blank, the EPPS, Rokeach's Dogmatism scale and the NDEA exam. Years of teaching experience, years of counselling experience and age were also used as predictors and multiple regression equations were calculated. The results indicated that the personal characteristics of these counsellors were not consistently related to ratings of counsellor competence. There was no apparent profile of the competent counsellor. (Rosen, 1967, p. 1004).

Activity of Counsellor.

A related, but by no means identical theory of counselling relationships has been put forward by Bierman (1969). He has proposed that two dimensions are important in what he terms "interpersonal facilitation". The first is that of positive regard v. rejection and hostility. The second is that of Activity rather than Passivity. Under the dimension of Activity is subsumed behaviour which is active, structured, concrete, confronting, expressive, vitalizing, genuine.

Although Bierman does not mention the connection,

recordings of various well known therapists, including Carl Rogers himself and it was found that Rogers was one of the most active therapists, being rated as coming moderately high on the scale.

Matarazzo, Saslow and Hare (1958) in a factor analysis of interview interaction behaviour found that there was good evidence that there was a high positive correlation between the amount of talk produced between two conversationalists in free conversation.

They also quote a report of an unpublished study by Lundy (1955), which found that with one patient and two therapists in alternate sessions, the patient spoke more with the more verbal therapist.

Grigg (1961) found that communication was rated by clients as proceeding more easily in sessions where the volume of both therapist's and client's verbal output reached higher levels. It was also found that the therapist could estimate the level of verbal activity before he had made any contact with the patient which suggests that the therapists played a considerable role in determining the level of output.

These results give a certain amount of support to Bierman's thesis. It is not clear however, that anything more fundamental than a tendency for neurotic and normal speakers to move to the level of verbal output of conversational partners need be involved. Furthermore it is difficult to conceptualize "activity" as being a single dimension. Murstein's (1963)

distinction between structure and ambiguity would also seem to apply to the counselling situation, as it is possible for a counsellor or therapist to be fairly active without being directive, although it is more difficult for him to be directive without being active. In conclusion it would seem that the hypothesis is an important one since to some extent it runs contrary to "common sense" notions, but more evidence is needed before it can be considered as more than tentative.

In conclusion then, it would seem that there is nothing like a research based counsellor profile. Certain traits would seem to be characteristic of good counsellors such as tolerance of ambiguity, but these do not add up to anything which might be called a counsellor personality (Hill, 1961; Tuma and Gustad, 1957).

As Hill (1961) has suggested, focussing on the work of the counsellor rather than his personality may well offer a more fruitful approach.

However, for the moment, although there are a lot of suggestive findings, the research so far suggests that there is no one type of ideal counsellor. This is perhaps not surprizing. As Patterson (1966) suggested, in reviewing Poser's (1966) somewhat startling findings, enthusiastic young female students may have a beneficial effect on schizophrenic patients, but the real question is how can we help the patients when the students become middle aged counsellors.

It is conceivable that one pattern of relationship, enthusiastic, may be effective with the students, but that a completely different kind of relationship may be needed between the patient or client and the mature counsellor.

This possibility that there might be more than one kind of effective counsellor is examined empirically in Study B, reported and discussed in later sections.

SECTION 5

PREVIOUS TAT STUDIES OF COUNSELLORS

PREVIOUS TAT STUDIES OF COUNSELLORS

Schwebel, Karr and Slotkin (1959) devised a special Picture Test for the selection of Counsellors. The test was composed of seven ink drawings, primitive in style, where each picture depicted a counselling situation. Some of the situations were stressful while others were neutral in tone.

The subject was asked what the client was saying, what the counsellor's response was, and was asked to indicate which of the two figures was the client and which was the counsellor. The questions were given and responses were written in one booklet, while a second contained the pictures. Correlation between different scores on the test and the total battery of tests varied between 0.28 and 0.50. The battery's correlation with the criterion (judges' ratings) was 0.58.

Holt and Luborsky (1958) on the other hand used the standard TAT. Using both formal and content variables, their scores failed to predict above chance on cross validation, with the exception of the formal variables scored by one of the two judges. ($r = 0.22$ with the overall criterion; $r = 0.28$ with diagnostic competence). The criterion in this case was ratings by supervisors and co-residents, combined with later success in terms of completion of residency, etc... While the interjudge reliability was 0.8 for the content varia-

-bles it dropped to 0.3 for the formal variables.

Semeonoff has carried out several studies on the differences between accepted and rejected counsellor candidates at the Scottish Marriage Guidance Council Selection Boards.

Semeonoff (1958), using an adaptation of Wyatt's (1947) system, contrasted the accepted and rejected candidates on 28 variables. For 23 of these, predictions were made and 11 significant differences were found (with significance at the .05 level between one and two significant differences could be expected). Of the two-tailed tests for which no prediction was made none were significant. Both formal and content variables were used.

In a further study (Semeonoff, 1959), using the TAT, Object Sorting Test (Rapaport, 1945) and Self Description Measure (Semeonoff, 1960), through the application of Sandler's Delegate Analysis (cf. Appendix in Semeonoff, 1963) found four types of candidates.

Since the present studies were carried out on the same population as that which Semeonoff used, and some of the same variables were used, further reference to the results obtained by Semeonoff will be made in later sections.

SECTION 6

THE DESIGN OF THE PRESENT STUDY

THE DESIGN OF THE PRESENT STUDY

For the reasons outlined previously, the scoring methods used focussed on either attitude or formal scores.

Most of the scoring systems had been used before and a deliberate effort was made to use several different systems so that empirical comparisons could be made.

Given that what might be important is not any "sign" in itself but rather the pattern of signs (Semeonoff, 1963), a cluster analysis of subjects was carried out, on a random sample of candidates. In order to see how the scores related among themselves, inter-variable analyses were also carried out.

Since there is considerable evidence that non-TAT variables such as age, social class, educational level and intelligence influence TAT scores (Veroff, 1961; Zubin, Eron and Schumer, 1965, pp. 522-525) these were taken into consideration in two ways : a) by matching subjects on these variables in Study A. b) by including them in the cluster matrices in Study B.

The focus of the study was the meaning of the various indices derived from TAT stories. To clarify this meaning two approaches were used. First, the differences between the protocols of the accepted and rejected candidates were examined, secondly, the

structure of the relationships between different ways of analysing TAT protocols was studied.

99.

The Scoring Methods used were :

- 1) Semeonoff's adaptation of Wyatt's system.
- 2) Dana's "Perceptual Organization".
- 3) Epley and Rick's "Time Span".
- 4) "Verbal Productivity".
- 5) Whitely's "Adaptive Ego Functioning".
- 6) Arnold's "Motivation Index".
- 7) Coelho et al's "Coping Behaviour".

In addition two new scores, "Plans" and "Depth of Structure" were devised.

Various other ratings and scores were tried out in pilot studies but were not used in the two main studies.

The candidates took part in a two day selection conference. The format of the conferences was derived from the group selection procedures of the War Office Selection Boards, evolved during the Second World War. (Harris, 1949). The conferences, organized by the Scottish Marriage Guidance Council, took place over the space of a weekend. After an initial introduction, the candidates took part in a group discussion conducted by the psychologist. This was then followed by a discussion of specific "marriage guidance" cases, conducted by a second member of the selection board. The "case discussion" then acted as a pool from which candidates could be drawn for individual interviews and the "written tests". The number of candidates varied from

board to board with the upper limit being around seventeen.

The TAT was given during the first day in a one hour "written tests" session. Usually between six and twelve subjects were tested together. Each TAT picture was projected onto a screen for twenty seconds and the candidates were then allowed $3\frac{1}{2}$ minutes in which to write a story. A "warning" was given after 3 minutes. Eight pictures were used. The TAT was followed by a short intelligence test and a self description. The psychologist also conducted individual interviews with some of the candidates using another personality measure such as the Object Sorting, Rorschach or Z-test.

Three other members of the board had individual interviews with all the candidates. One of them was the psychiatrist whose role was to focus on the deeper levels of personality. Two other selectors explored the candidates' personal and family histories and their knowledge and understanding of the principles of the marriage guidance movement respectively. The sixth member of the selection board was the chairman.

Thus, although the TAT protocols were available to the psychologist in drawing up his assessment, he also made use of the results from the other tests. Analysis of the written tests had to be carried out on the evening of the first day of the selection conference. Thus, although there is a possibility of contamination in the relationship between the protocols and the outcome of

the selection boards, the strength of any such effect is not likely to be great.

The Pictures.

Some of the pictures used were taken from the Harvard 1943 Series. Others were gathered from a variety of sources. Four of the eight pictures were used at all the selection boards. These were pictures 2, 6BM, 6GF and 10 in the Murray Series, and they were the first, second, third and last to be given. Various other pictures occupied the positions four to seven, and a total of 17 different pictures was used, (in the sessions from which protocols sampled were taken). Of these, pictures 7BM, 8GF, 12F and 13B were used considerably more often than the others. However, for the sake of convenience, the label "non-standard" was given to the pictures which appeared in the positions 4 to 7, and the term "standard" is used for the four pictures which appeared in all of the test sessions.

There were two reasons for dividing the pictures into two groups. First, because of the importance of "stimulus effects" on some TAT scores, it is to be expected that greater error variance would be found among the results for the "non-standard" pictures for at best some of the variables.

Secondly, a number of the "non-standard" pictures

were coloured and generally more contemporary in appearance, which might have made them more effective. (Yudin and Reznikoff, 1966).

Therefore, because of these two factors it was thought useful to distinguish between the two sets of pictures.

Outline of the Scoring Systems Used.

Semeonoff's Adaptation of Wyatt (1947) (Involvement).

Using Wyatt's (1947) scoring system as a framework, Semeonoff (1958) used some 28 TAT variables on which the rejected and accepted candidates were compared. On the basis of Semeonoff's and pilot study results, the variables below were chosen for analysis in Study A.

Rationale.

Many of the variables are based on the general assumption that involvement in the test situation and empathy with the characters are favourable signs, and that evasiveness, ambiguity or non-conformity with the instructions are unfavourable. (Semeonoff, 1958). ⁽¹⁾

(1) This hypothesis is in some respects similar to that made by Dana (1955).

For this reason these scores were given the shorthand title of "Involvement".

Variables.

1) Structure.

- a) Plot
- b) Situation : an intermediate category including rudimentary "obvious" plot
- c) Description
- d) Association : a response in which the subject, instead of making up a story uses the picture as a stimulus to personal reminiscence or reflection.

Semeonoff found "Association" to be used more by rejected candidates than by accepted ones,

2) Level of Interpretation.

- a) Endopsychic : stress on inner experience, scored only if all the other categories are absent.
- b) Concrete-factual
- c) Symbolic
- d) Conditional : used where the story turns on the interpretation of certain details, or where alternate interpretations are actually given.

Semeonoff's results suggested that the Endopsychic level was more typical of the accepted and the Symbolic level of the rejected candidates.

3) Focal Figures.

- a) Number of stories with more than one focal figure.
- b) Number of stories with more than one "fully" focal figure.
- c) Number of stories with no focal figure.

Of the three, Semeonoff found (c) to differentiate the two groups with the rejected candidates showing the higher incidence.

4) Personal Relationships.

- a) Total number of relationships.
- b) Spouse relationship.
- c) Stories not mentioning relationships.

Semeonoff found (a) and (c) to differentiate the two groups, the former in a favourable and the latter in an unfavourable direction.

5) Press.

- a) Positive press.
- b) Negative press.
- c) Ambivalent press.
- d) Ambivalent press with positive attitude.
- e) Positive attitude.
- f) Absence of press.

(d) and (e) were predicted and found by Semeonoff to be favourable and (f) to be unfavourable.

6) Miscellaneous.

- a) Proper names.
- b) Conversation.

- c) Distancing ; withdrawal from the stimulus, or by implication, from the life situation it represents.

Perceptual Organization.

Rationale.

Dana (1955, 1956a, 1956b, 1956c, 1959a, 1959b, 1960) has found this variable to be an index of adjustment and Nawas (1965) found it correlated with estimates of maturity.

The hypothesis was made that the accepted candidates would gain a higher score on the total scale.

Scoring System.

Each story is scored for the presence for each of the following seven points. The total score is obtained by adding the number present. The seven points are:

- 1) Card Description
- 2) Present behaviour
- 3) Past events
- 4) Future events
- 5) Feeling
- 6) Thought
- 7) Outcome

The Motivation Index.

Rationale.

The importance of a positive outlook has been mentioned by various writers on counsellor characteristics.

Arnold's system appears to measure primarily "positive outlook". It has been found to be related to the success of school teachers (Burkard, 1962) and seminary students (Arnold, 1962).

Scoring System.

Arnold's system is one of the more complex approaches to TAT analysis. Briefly, Story Sequence Analysis involves summarizing each story into an import which is then scored against a standard classification of imports. The complete sequence of imports is also scrutinized for further indications of the storyteller's outlook.

One limitation is that Arnold has stated that at least ten cards should be used. However, in the light of the reported reliability and validity, eight cards would seem to provide a reasonably adequate sample to test out this system.

An appendix to the manual (Arnold, 1962) provides a listing of possible imports each of which has been given a rating from -2 to +2, and thus each story is rated on this five point scale.

Adaptive Ego Functioning.

Rationale and Scoring System.

Whiteley (1966) validated this method by using it to discriminate "over" and "under" achieving high school boys. This was done by examining potential problem areas, and seeing how the heroes behaved when these problems arose in the TAT stories.

The areas examined were p-Aggression, p-Dominance, n-Achievement, n-Aggression, and n-Autonomy. Whether these problems were solved "adaptively" or "maladaptively" was decided by asking the following questions :

1) Was the hero's strategy of action one which included prior consideration of the consequences of his behaviour ?

2) Did the hero of the story appropriately assess the nature of the Press to which he was reacting ?

3) Did the hero of the story cope with the situation in which the teller of the story placed him ?

4) Did the hero's consideration process reflect an awareness of the social realities of the situation in which he was placed ?

5) Was the hero's reaction logically related to his long-range interests ?

6) Does the hero in the story accept responsibility for his behaviour and its consequences ?

7) Can the hero control his reaction to press from the environment or from his own impulses ?

Rather than consider specific presses and needs, those used by Whiteley not being particularly relevant to counsellors, the method was modified as follows :

For each story each question was considered individually, and if it could be answered positively a score of +1 was given; if negatively, a score of -1, and if it could not be answered, a score of zero. The score for an individual was then based on the sum of all ques-

-tions for all pictures. In addition the sum for each individual for each question was calculated.

Coping Behaviour.

Rationale.

This system appears, like Adaptive Ego Functioning and the Motivation Index, to provide an index of adjustment. (Coelho et al, 1962; Field et al, 1963).

Scoring System.

Coelho et al (1962) describe their approach as follows : "A simple rating scheme was developed on the basis of problem solving categories of competence. In scoring the Student-TAT stories, we first determined whether there was a solution, any resolution at all, to the problem-situation, as defined by S. The hero was identified Then we determined whether he was actively striving to bring about the resolution.... Finally, we determined whether the resolution was favorable to the hero's intended goal. The resolution was not evaluated. It was considered favorable when it got the job done more or less effectively, for the "hero's" own purpose." pp.358-9.

A fifteen point scale, A to E, with the possible addition of + or -, was used with each of the three categories : Solution, Activity and Favorableness.

Temporal Span.

Rationale.

Epley and Ricks (1962) reported that Prospective span was shown to be related to high academic achievement, low anxiety and empathic involvement with others. Retrospective span was related to narcissism, sensitive imaginativeness and openness to experience.

Scoring System.

The following scale is used for both prospective and retrospective span.

- 1) Span less than hour.
- 2) Span greater than hour, less than day.
- 3) Span greater than day, less than week.
- 4) Span greater than week, less than month.
- 5) Span greater than month, less than half year.
- 6) Span greater than half year, less than year.
- 7) Span greater than year, less than four years.
- 8) Span greater than four years, less than decade.
- 9) Span greater than decade, less than life (career).
- 10) life span.

Verbal Productivity.

Verbal productivity or word count has been found to be related to several TAT scores (Lindzey and Silverman, 1959), and it was included in the present studies, to see what relations it had with the other va-

-riables being used.

It was measured by a simple count of the number of words present in the story. Words or phrases scored out by the writer were not counted.

Depth of Structure and Plans.

Conceptually, these variables were derived from the theories of emotion and motivation put forward by Tomkins (1962; 1963) and Arnold (1960), from the theory of behaviour put forward by Miller, Galanter and Pribram (1960), and in particular the theory of cognitive complexity advanced by O.J. Harvey and his associates (Harvey, Hunt and Schroder, 1961; Schroder, Driver and Streufert, 1967).

These scores were based on the conception put forward by Miller, Galanter and Pribram (1960) that behaviour is hierarchically ordered. If a person seeks a goal which is not immediately obtainable, then, say these authors, he must create a plan. Most human plans are hierarchically organized. That is, the task is analysed into several main parts, and an order decided upon for doing them. However, each of these sub-parts may in itself be sufficiently complex to warrant being divided into further sub-units, and so a plan of several hierarchical layers may be devised.

The first stage of this method of analysis was to rearrange the stories into series of hierarchically ordered actions. For example, in a story told about

picture 6BM (Mother and Son), two incompatible plans were seen, as follows :

1. Give financial and moral support to grandmother.

2. Leave.

2a. Take up opportunity of splendid job.

2ai. Feel one can wait no longer.

2aii. Break news to other.

The depth score was derived from the "deepest" hierarchy present in any one plan. The highest level of the structure (in this case labelled 1. and 2.) gives the goals of the focal figures. These were called the "plans" of the focal figures and were classified separately. A distinction was made between bilateral plans (those which required the cooperation of two or more people) and unilateral plans (those which did not). The bilateral plans were examined for the kind of relationship they implied and were scored positively if it was non-exploitative, and negatively if it involved exploitation or domination of one party by the other. A zero score was given to those plans which could not be classified either way. The unilateral plans were classified according to Maslow's (1954) concept of five levels of needs. These are Physiological, Safety, Belongingness, Esteem and self actualization needs. The first two were scored negatively and the last two positively.

As this scoring system is novel in its conception, further details have been given, with examples, in Appendix B.

This scoring system is seen as being similar to those of Arnold (1962) and Tomkins (1948). One of the aims was to avoid some of the subjectivity of Story Sequence Analysis, since there is no onus upon the scorer to abstract the original story. It is somewhat similar to Tomkins' system, but very much simpler.

The depth score also provides an example of a scoring system which is idiographic at one level and nomothetic at another. No attempt is made to classify the story originally, but rather it is analyzed in terms of its internal structure. It is then that structure which is measured and compared.

SECTION 7

RESULTS

RESULTS

INTRODUCTION

After the pilot studies had been used to make a preliminary selection of variables, two main studies were carried out. In the first, matched pairs of accepted and rejected candidates were used. The pairs were chosen according to the following criteria. Both members of the pair were at the same selection board, they were of the same sex and they had approximately the same intelligence. In addition they were matched as closely as possible on age and social class (1).

Exact matching was not possible and there were some differences, in social class. In seven out of the eight cases where candidates could not be matched exactly, it was the rejected candidate who had the higher social class.

The purpose of the matched sample was to ensure that differences found between the protocols of accepted and rejected candidates were not artifacts of differences in intelligence or other "extraneous" factors. One limitation of the sample was that, although sex

(1) As derived from the occupation of the candidate or her husband, by use of the Registrar General's Classification of Occupations.

was matched, the number of pairs was not controlled and all but one of the pairs was made up of female candidates. This was due in part to the fact that most of the candidates are female and matched pairs are therefore more frequent. A total of 16 pairs was used.

Following the results of the matched sample, a larger random sample was used. There were several reasons for using a random sample, a principal one being that the selection boards are not composed of conveniently matched pairs of candidates. There were 24 candidates in the female accepted and rejected groups, and in the male accepted group, and 22 in the male rejected group. The variables used were selected from those used in the matched sample.

The results are presented as follows. First a summary of the results from the two studies is given. This is followed by the cluster analyses of the interrelations between the scores. The section is then concluded with the results for individual variables.

	STUDY A		STUDY B	
	Accepted Candidate Higher	Rejected Candidate Higher	Means Accepted Candidates	Rejected Candidates
Involvement ⁽¹⁾	13 : 3 ***		3.60	1.30 ***
Perceptual Organization	12 : 3 **		19.52	16.87 ****
Depth of Structure	11 : 4 *		7.73	6.28 **
Plans	12 : 3 **		3.92	3.50 ns
Coping ⁽²⁾	12 : 4 ***		61.6	58.6 **
Word Count	12 : 4 *		593.0	487.1 ****
Adaptive Ego Functioning ⁽³⁾	7 : 7 ns			
Motivational Index	11 : 5 **			
Time Span	10 : 6 ns			

Wilcoxon's Matched-Pairs Signed-Ranks Test (Siegel, 1956) was used in Study A and the t-test in Study B.

ns : .10 \angle p * : p \angle .10

** : p \angle .05 *** : p \angle .01 **** : p \angle .001

TABLE 7-1 : SUMMARY OF RESULTS

(1) This score was derived from the variables used by Semeonoff, by giving certain of the variables a weighting of plus or minus 1 according to the prediction made. Scores which had not previously discriminated between the two groups were given a zero weighting.

(2) For the matched sample A, this was the sum of "activity" and "favorability", for sample B, the figures given are for favorability alone.

(3) These variables were not included in Study B.

That statistically significant differences were obtained is not surprising when one bears in mind the fairly large size of the samples (32 and 92).

A more detailed analysis of these results is possible by considering the scores for men and women separately, and also by dividing the scores into those obtained on the four standard cards, as well as on the four non-standard cards.

Since this allows eight additional tests for each variable, the results are presented for each variable in turn. However an overall picture of the results can be obtained by looking at the significances of the differences presented in Table 7-2.

OVERALL PATTERN OF SIGNIFICANT DIFFERENCESTABLE 7-2

	<u>study</u> A	<u>study</u> B								
		male			female			both sexes		
		S	NS	T	S	NS	T	S	NS	T
Wyatt summary	3	3	1	2	-	-	-	1	1	2
More than one focal figure	1	-	-	t	-	-	-	-	-	-
No mention of relationships	t	-	-	-	-	1	-	-	1	-
Number of personal relationships	-	1	-	1	-	-	-	1	1	1
Positive press	-	-	1	1	-	1	t	-	3	-
Negative press	-	-	-	-	-	-	-	-	-	-
Ambivalent press	3	-	-	-	-	-	-	-	-	-
Amb.press with positive attitude	-	-	-	-	-	-	-	-	-	-
Positive attitude	-	-	-	-	-	-	-	-	-	1
Absence of press	2	-	2	2	-	-	-	-	2	2
Distancing	t	-	-	1	-	-	-	-	-	-
Present behaviour	-	-	-	-	-	-	1	-	-	1
Past events	t	1	-	1	-	-	-	1	1	t
Feeling	1	-	-	t	-	-	-	-	-	-
Thought	-	-	1	1	-	-	-	-	1	1
Total perceptual organization	1	3	3	3	-	1	t	3	3	3
Solution	1	-	t	-	-	-	-	-	t	t

	<u>study</u> A	<u>study</u> B								
		male			female			both sexes		
		S	NS	T	S	NS	T	S	NS	T
Activity	t	-	t	-	-	t	-	-	1	t
Favourability	1	-	-	-	-	t	t	-	1	1
Word Count	t	2	1	2	-	2	2	3	3	3
Depth	t	1	-	1	-	1	-	-	1	1
Plans	1	-	-	-	-	-	-	-	-	-

S = Standard cards; NS = Non Standard cards;

T = Total for all 8 cards.

All probabilities are for t-tests, or where this was inappropriate, Festinger's J test, in Study B; and the Wilcoxon Test in Study A.

Coding of Probabilities.

$$t = p \angle .10$$

$$1 = p \angle .05$$

$$2 = p \angle .01$$

$$3 = p \angle .005$$

NON TAT VARIABLES

In addition to the TAT scores certain other variables were considered in Study B. These were Intelligence, Age, Social Class and Level of Education.

1. Age.

Although the age of a male candidate was unrelated to the outcome of the selection procedure, age would appear to be relevant as far as women candidates are concerned. A t-test of the differences between the accepted groups was significant (at the .01 level), the younger candidates being more successful.

Since this is in itself an interesting finding, and was also found to be related to the TAT patterns, the result was confirmed by examining the ages of the total female population. Not all the ages had been recorded, but the number of unknown ages was small. (For the Study B sample, 1 accepted and 2 rejected candidates did not record their age).

Of the female candidates whose ages were available 187 were accepted and 177 rejected.

The ages were as follows :

AGE	less than 30	31-35	36-40	41-45	46-50	51-55	56+
Accepted	7	31	37	54	26	20	12
Rejected	11	29	23	25	42	26	11

TABLE 7-3 : Ages of Female Candidates.

A χ^2 was carried out to check that the overall differences were not due to chance and this indicated

that the null hypothesis could be rejected at the .05 level.

There was again a tendency for the younger candidates to be more acceptable to the board. If we take 40 and under as younger and 46 and over as older, then the difference is again significant (.05 level when tested by χ^2).

It should however be noted that the most acceptable age range is between 36 and 45 and the least favourable between 46 and 55. Extreme ages however seem to make little difference.

2. Intelligence.

	Accepted	Rejected	p(t-test)	r-bis
Male Group	15.63	12.00	.01	.60
Female Group	13.5	11.58	.05	.37
Combined	14.56	11.78	.01	

TABLE 7-4 : Study B. Intelligence.

Intelligence seems to be more important in discriminating between the male groups than the female groups, although it is significant for both.

3. Social Class.

This was judged from the occupation of the candidate or her husband, using the Registrar General's Classification of Occupations. The results for Study B are as follows :

MALE CANDIDATES			FEMALE CANDIDATES		
	Accept	Reject		Accept	Reject
I	5	9	I	9	3
II	12	12	II	9	8
III	2	2	III	1	-
Unknown	3	1	Unknown	5	13

The χ^2 for I vs. II+III was
insignificant at the .05 level

TABLE 7-5

As can be seen from these results, there appears to be no relation between social class and outcome of the board for men. Unfortunately the information was not available to make a comparison for women. To overcome this difficulty a wider sample was taken by using information from the records of the Scottish Marriage Guidance Council, for all female candidates whose surname began at the beginning of the alphabet (up to and including F). (Only those accepted candidates who were still active were used).

The results were :

	Accept	Reject	(The χ^2 for I, II, III + IV was not significant)
I	16	11	
II	19	19	
III	3	8	
IV		1	
TOTAL	38	39	

TABLE 7-6

These figures suggest that social class alone is not of great importance to the outcome of the selection board.

4. Level of Education.

	MALE		FEMALE	
	Accept	Reject	Accept	Reject
University	16	4	7	1
Technical	4	9	7	15
Secondary or less	2	6	6	7
Unknown	2	3	4	1
Total	24	22	24	24

(The χ^2 for University vs. other educational levels was significant at the .01 level for male candidates and at the .05 level for female candidates).

TABLE 7-7

The figures were confirmed by referring back to the larger sample for the female group.

	Accept	Reject	
University	14	4	(The χ^2 was significant at the .001 level).
Technical	18	29	
Secondary	8	28	
Total	40	61	

TABLE 7-8

These figures confirm the trend in the original sample and it appears that intelligence and level of

education are important factors in the outcome of the board, as is age for women. Social class, however, is not.

THE INTERRELATIONSHIPS BETWEEN THE VARIABLES.

I. Study A. Rank correlations were calculated between the major scoring systems. The matrix of intercorrelations is shown in Table 7-9.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Word Count	--	73	49	63	07	27	22	-02	37
(2) Perceptual Organization	73	--	60	64	40	46	31	18	51
(3) Depth	49	60	--	46	23	32	12	21	64
(4) Involvement	68	64	46	--	08	45	34	16	57
(5) Plans	07	40	23	08	--	13	-04	-05	08
(6) Coping behaviour	27	46	32	45	13	--	53	67	26
(7) Motivation Index	22	31	12	34	-04	53	--	39	25
(8) Adaptive Ego Functioning	-02	18	21	16	-05	67	39	--	09
(9) Time Span	37	51	64	57	08	26	25	09	--

TABLE 7-9 : Study A. Correlations (Rho) between main categories of scores.

(Decimal places have been omitted).

An Elementary Linkage Analysis (McQuitty, 1957, 1960) yielded three clusters.

- 1) A general cluster comprising : Perceptual Organization, Verbal Productivity and Involvement. "Plans" also came into this cluster but correlated only with Perceptual Organization.
- 2) An "attitude" cluster composed of Adaptive Ego Functioning, Coping Behaviour and the Motivation Index.
- 3) Finally Depth and Time Span formed a dyad.

II. Study B.

A more detailed analysis was carried out on the results of Study B. The scores were dichotomised and the index used was $\phi/\phi \text{ max}$ as recommended by Cattell (1952); two separate hierarchical linkage analyses (McQuitty, 1960) were carried out for the male and female groups. A summary and comparison of the results is given in Table 7-10.

TABLE 7-10. Study B. Cluster Analyses of Variables.

<u>Female Candidates</u>	<u>Male Candidates</u>
<u>Cluster 1a.</u> (Positive Attitude)	<u>Cluster 1.</u>
+ Ambivalent Press with Positive Attitude	+ Ambivalent Press with Positive Attitude
+ Positive Attitude	+ Positive Attitude
+ Activity	+ Activity
<u>Cluster 1b.</u>	<u>Cluster 2.</u>
- Age	- Age
+ Solution	+ Solution
+ Favourability	
<u>Cluster 1c.</u>	<u>Cluster 3.</u>
- Negative Press	- Negative Press
+ Ambivalent Press	+ Positive Press
+ Thought	+ Favourability
	<u>Cluster 4.</u>
	+ Feeling
	- Present Behavior
<u>Cluster 2.</u>	
+ Positive Press	
- Absence of Press	
+ Present Behavior	
	<u>Cluster 5a.</u>
	+ Ambivalent Press
	- Absence of Press

Female CandidatesMale CandidatesCluster 3. Distancing Cluster 5b.

- Distancing

- Distancing

+ Depth

+ Depth

+ Thought

Cluster 4. Personal Relationships Cluster 5c.- No mention of
relationships- No mention of
relationships

+ Number of relationships

+ Number of relationships

+ Past events

+ Past events

Cluster 5. Productivity/Education Cluster 6.

+ Educational Level

+ Educational Level

+ Verbal Productivity

+ Verbal Productivity

+ Feeling

+ Intelligence

Variables not included in the clusters.

More than one focal figure

More than one focal figure

Intelligence

Notes.

+ Positive 'loading'

- Negative 'loading'

Several of the clusters resulting from the Hierarchical Linkage Analyses were common to both male and female groups. Indeed the main difference between the groups lay in the interrelationships between the clusters. In the female group, the 'content' clusters and variables tended to come together to form one 'content' cluster'. This did not happen in the male group and a 'formal cluster' emerged instead. Confirmation of this result can be obtained by examining the matrices of intercorrelations (Tables 7-15 and 7-16) where the indices have been arranged according to cluster membership.

The common clusters were as follows :

<u>Positive Attitude.</u>	Female Group	Male Group
Ambivalent Press with Positive Attitude	+	+
Positive Attitude	+	+
Activity	+	+

TABLE 7-11.

This cluster was labelled "Positive Attitude" as it contained the two positive attitude scores from the "Involvement" set, and Activity from "Coping Behaviour".

<u>Distancing.</u>	Female Group	Male Group
Thought		+
Distancing	+	+
Depth	+	+

TABLE 7-12

It appears that Distancing and Depth, which were negatively related, are measuring the opposite sides of the same coin, and that emotional withdrawing from the testing situation is revealed in the diminished structure of the story, although not necessarily affecting the length of the story (see Table 7-15).

<u>Personal Relationships.</u>	Female Group	Male Group
No mention of relationships	+	+
Number of personal relationships	+	+
Past Events	+	+

TABLE 7-13

The inclusion of past events in this cluster is interesting and may represent a stylistic tendency.

<u>Productivity / Education.</u>	Female Group	Male Group
Feeling	+	
Level of Education	+	+
Word Count	+	+
Intelligence		+

TABLE 7-14

TABIES 7-15 to 7-18 : Coding of Variables.

Code No.	Abbreviation	Variable	
1	1+ff	More than one focal figure.	
3	1 rel.	No mention of relationships.	
4	No. rels	Number of relationships.	R
5	+p	Positive press.	
6	-p	Negative press.	R
7	Amb. p	Ambivalent press.	
8	Amb.p.+att.	Ambivalent press with positive attitude.	
9	+att.	Positive attitude.	
10	p	Absence of press.	R
11	Dist.	Distancing.	R
12	P.B.	Present Behaviour.	
13	P.E.	Past events.	
14	F.	Feeling.	
15	T.	Thought.	
16	Sol.	Solution.	
17	Act.	Activity.	
18	Out.	Favourability of Outcome.	
20	V.P.	Verbal productivity.	
21	Dep.	Depth.	
IQ		Intelligence.	
A	Age	Age.	R

EL Educational level.

SC Social Class.

R = direction reversed to minimise negative signs in
Tables 7-15 and 7-16.

Note : In the following tables the decimal places have been omitted. The coefficients are $\phi/\phi \text{ max}$. The ratio of the obtained ϕ to the maximal ϕ is a not uncontroversial statistic. R.B. Cattell recommends it and has used it as the index of correlation in factor analyses (Cattell, 1952). J.P. Guilford, on the other hand, doubted the usefulness of the ratio in the fourth (but not the third) edition of his "Fundamental Statistics", (Guilford, 1965, 1956). However, it is important to note that $\phi/\phi \text{ max}$ is not being used here either as an index of either the "practical" or the "intrinsic" relationship between two variables, but as an index which will permit comparison of the pattern of relationships between a number of variables. For this purpose it would seem to be a suitable statistic.

	1	8	9	17	A	16	18	6	7	15
1 1+ff	--	-35	-26	00	09	04	-04	09	09	04
8 Amb.p.+att	-35	--	64	56	20	54	54	20	20	26
9 + att.	-26	64	--	55	26	41	29	26	51	25
17 Act.	00	56	55	--	36	30	39	18	27	36
A Age	09	20	26	36	--	39	39	00	00	-04
16 Sol.	04	54	41	30	39	--	53	30	30	56
18 Out.	-04	54	29	36	39	58	--	48	22	33
6 - p.	09	20	26	18	00	30	48	--	50	42
7 Amb. p.	09	20	51	27	00	30	22	50	--	65
15 T.	04	26	25	36	-04	56	33	42	65	--
5 + p.	09	-32	-27	-09	27	14	24	18	-11	-02
10 p.	-03	10	07	10	17	60	33	03	51	25
12 P.B.	04	-18	-22	04	19	33	11	-04	-25	20
11 Dist.	30	-26	22	07	-07	00	22	04	25	26
21 Dep.	03	41	44	25	27	30	48	18	46	36
3 1 rel.	27	04	06	27	30	24	24	11	30	21
4 No. rels.	25	-04	-14	00	18	22	04	00	36	36
13 P.E.	00	11	21	17	37	13	13	09	09	-07
14 F.	25	00	-51	-18	09	-04	13	00	00	-07
EL Ed. level	06	45	-09	17	23	20	30	33	-06	33
20 V.P.	22	38	-06	30	30	33	33	13	04	33
IQ	15	16	-02	-04	-13	09	-09	04	29	03

TABLE 7-15. Part I.

Study B. Intervariable Coefficients. Female Candidates.

Arranged according to Clusters.

	5	10	12	11	21	3	4	13	14	EL	20	IQ
1	09	-03	04	30	08	27	25	00	25	06	22	15
8	-32	10	-18	-26	41	04	-04	11	00	45	38	16
9	-27	07	-22	22	44	06	-14	21	-51	-09	-06	-02
17	-09	10	04	07	25	27	00	17	-18	17	30	-04
A	27	17	19	-07	27	30	18	37	09	23	30	-13
16	14	60	33	00	30	24	22	13	-04	20	33	09
18	24	33	11	22	48	24	04	13	13	30	33	-09
6	18	03	-04	04	18	11	00	09	00	33	13	04
7	-11	51	-25	25	46	30	36	09	00	-06	04	29
15	-02	25	20	26	36	21	36	-07	-07	33	33	03
5	--	70	24	11	11	13	11	11	40	-09	01	-27
10	70	--	36	47	10	29	39	10	23	04	-06	-14
12	24	36	--	11	04	11	15	15	04	20	11	-08
11	11	47	11	--	54	49	30	19	30	-07	-11	08
21	11	10	04	54	--	27	33	17	17	17	39	05
3	13	29	11	49	27	--	73	45	09	-02	14	12
4	11	39	15	30	33	73	--	33	17	-04	30	24
13	11	10	15	19	17	45	33	--	00	06	13	05
14	40	23	04	30	17	09	17	00	--	27	39	05
EL	-09	04	20	-07	17	-02	-04	06	27	--	50	-02
20	01	-06	11	-11	39	14	30	13	39	50	--	36
IQ	-27	-14	-08	08	05	12	24	05	05	-02	36	--

TABLE 7-15. Part II.

Study B. Intervariable Coefficients. Female Candidates.

Arranged according to Clusters.

		1	8	9	17	A	16	18	6	5	14
1	1+ff	--	17	53	27	00	09	-09	08	-12	09
8	Amb.p.+att	17	--	100	33	48	33	37	31	01	-06
9	+ att.	53	100	--	40	-04	25	18	45	-06	25
17	Act.	27	33	40	--	-04	22	34	36	10	-15
A	Age	00	48	-04	04	--	43	13	20	08	15
16	Sol.	09	33	25	22	43	--	52	25	30	-15
18	Out.	-09	37	18	34	13	52	--	77	36	04
6	- p.	08	31	45	36	20	25	77	--	39	04
5	+ p.	-12	01	-06	10	08	30	36	39	--	10
14	F.	09	-06	25	-15	15	-15	04	04	10	--
12	P.B.	13	09	-02	19	12	19	23	05	-23	-23
7	Amb. p.	18	21	45	36	19	36	30	27	-18	-07
10	p.	24	17	42	21	14	44	14	-10	10	10
15	T.	09	23	55	39	14	39	43	36	20	04
11	Dist.	-14	07	09	30	-16	30	39	17	39	02
21	Dep.	-08	20	37	37	04	57	33	18	43	-23
3	1 rel.	05	10	00	27	-16	27	09	-22	-05	-18
4	No. rels.	-09	06	04	22	05	43	13	-04	-08	-13
13	P.E.	17	01	-06	40	07	40	18	02	30	-09
EL	Ed. level	-01	20	18	14	37	33	06	12	12	-06
20	V.P.	-10	23	25	13	24	22	-04	04	00	30
IQ		-08	43	24	06	23	16	-06	-12	17	16
SC	Soc. class	08	12	06	59	10	32	25	18	22	-25

TABLE 7-16. Part I.

Study B. Intervariable Coefficients. Male Candidates.Arranged according to Clusters.

	12	7	10	15	11	21	3	4	13	EL	20	IQ
1	13	18	24	09	-14	-08	05	-09	17	-01	-10	-08
8	09	21	17	23	07	20	10	06	01	20	23	43
9	-02	45	42	55	09	37	00	04	06	18	25	24
17	19	36	21	39	30	37	27	22	40	14	13	06
A	12	19	14	14	-16	04	-16	05	07	37	24	23
16	19	36	44	39	30	57	27	43	40	33	22	16
18	23	30	14	43	39	33	09	13	18	06	-04	-06
6	-05	27	10	36	17	18	-22	-04	02	12	04	-12
5	-23	-18	10	20	39	43	-05	03	30	12	00	17
14	-23	-07	10	04	02	-23	-18	-13	-09	-06	30	16
12	--	34	10	-02	03	15	26	12	19	-03	09	03
7	34	--	52	57	15	49	33	54	27	41	36	11
10	10	52	--	44	28	46	53	51	23	48	44	32
15	-02	57	44	--	58	79	27	43	40	33	22	27
11	03	15	28	58	--	65	33	43	51	54	02	17
21	15	49	46	79	65	--	40	52	41	43	16	15
3	26	33	53	27	33	40	--	82	52	30	00	20
4	12	54	51	43	43	52	82	--	73	48	24	33
13	19	27	23	40	51	41	52	73	--	34	20	36
EL	-03	41	48	33	54	43	30	48	34	--	43	43
20	09	36	44	22	02	16	00	24	20	43	--	48
IQ	03	11	32	27	17	15	20	33	36	43	48	--
SC	-03	30	09	-18	78	34	14	55	37	75	18	-12

TABLE 7-16. Part II.

Study E. Intervariable Coefficients. Male Candidates.Arranged according to clusters.

	1	3	5	6	7	8	9	10	11	12
1 1+ff	--	-27	+09	-09	+09	-35	-26	+03	-30	+04
3 1 rel.	-27	--	-13	+11	-30	-04	-06	+29	+49	-11
5 + p.	+09	-13	--	-18	-11	-32	-27	-70	-11	+24
6 - p.	-09	+11	-18	--	-50	-20	-26	+03	+04	+04
7 Amb. p.	+09	-30	-11	-50	--	+20	+51	-51	-25	-25
8 Amb. p. + att	-35	-04	-32	-20	+20	--	+64	-10	+26	-18
9 + att.	-26	-06	-27	-26	+51	+64	--	-07	-22	-22
10 p.	+03	-29	-70	+03	-51	-10	-07	--	+47	-36
11 Dist.	-30	+49	-11	+04	-25	+26	-22	+47	--	-11
12 P.B.	+04	-11	+24	+04	-25	-18	-22	-36	-11	--
13 P.E.	00	-45	+11	-09	+09	+11	+21	-10	-19	+15
14 F.	+25	-09	+40	00	00	00	-51	-23	-30	+04
15 T.	+04	-21	-02	-42	+65	+26	+25	-25	-26	+20
16 Sol.	+04	-24	+14	-30	+30	+54	+41	-60	00	+33
17 Act.	00	-27	-09	-18	+27	+56	+55	-10	-07	+04
18 Out.	-04	-24	+24	-48	+22	+54	+29	-33	-22	+11
20 V.P.	+22	-14	+01	-13	+04	+38	-06	+06	+11	+11
21 Dep.	+08	-27	+11	-18	+46	+41	+44	-10	-54	+04
4 No. rels.	+25	-73	+11	00	+36	-04	-14	-39	-30	+15
IQ	+15	-12	-27	-04	+29	+16	-02	+14	-08	-08
A Age	-09	+30	-27	00	00	-20	-26	+17	-07	-19
EL Ed. level	+06	+02	-09	-33	-06	+45	-09	-04	+07	+20

TABLE 7-17 Part I.

Study B. Intervariable Coefficients. Female Candidates.

Arranged according to Scoring System.

	13	14	15	16	17	18	20	21	4	IQ	A	EL
1	00	+25	+04	+04	00	-04	+22	+08	+25	+15	-09	+06
3	-45	-09	-21	-24	-27	-24	-14	-27	-73	-12	+30	-02
5	+11	+40	-02	+14	-09	+24	+01	+11	+11	-27	-27	-09
6	-09	00	-42	-30	-18	-48	-13	-18	00	-04	00	-33
7	+09	00	+65	+30	+27	+22	+04	+46	+36	+29	00	-06
8	+11	00	+26	+54	+56	+54	+38	+41	-04	+16	-20	+45
9	+21	-51	+25	+41	+55	+29	-06	+44	-14	-02	-26	-09
10	-10	-23	-25	-60	-10	-33	+06	-10	-39	+14	+17	-04
11	-19	-30	-26	00	-07	-22	+11	-54	+30	-08	-07	+07
12	+15	+04	+20	+33	+04	+11	+11	+04	+15	-08	-19	+20
13	--	00	-07	+13	+17	+13	+13	+17	+33	+05	-37	+06
14	00	--	-07	-04	-18	+13	+39	+17	+17	+05	-09	+27
15	-07	-07	--	+56	+36	+33	+33	+36	+36	+03	+04	+33
16	+13	-04	+56	--	+30	+58	+33	+30	+22	+09	-39	+20
17	+17	-18	+36	+30	--	+39	+30	+25	00	-04	-36	+17
18	+13	+13	+33	+58	+39	--	+33	+48	+04	-09	-39	+30
20	+13	+39	+33	+33	+30	+33	--	+39	+30	+36	-30	+50
21	+17	+17	+36	+30	+25	+48	+39	--	+33	+05	-27	+17
4	+33	+17	+36	+22	00	+04	+30	+33	--	+24	-18	-04
IQ	+05	+05	+03	+09	-04	-09	+36	+05	+24	--	+13	-02
A	-37	-09	+04	-39	-36	-39	-30	-27	-18	+13	--	-23
EL	+06	+27	+33	+20	+17	+30	+50	+17	-04	-02	-23	--

TABLE 7-17 Part II.

Study B. Intervariable Coefficients. Female Candidates.Arranged according to Scoring System.

	1	3	5	6	7	8	9	10	11	12
1 1+ff	--	-05	-12	-08	+18	+17	+53	-24	+14	+13
3 1 rel.	-05	--	+05	-22	-33	-10	00	+53	+33	-26
5 + p.	-12	+05	--	-39	-18	+01	-06	-10	-39	-23
6 - p.	-03	-22	-39	--	-27	-31	-45	-10	+17	+05
7 Amb. p.	+18	-33	-18	-27	--	+21	+45	-52	-15	+34
8 Amb.p.+att.	+17	-10	+01	-31	+21	--	+100	-17	-07	+09
9 + att.	+53	00	-06	-45	+45	100	--	-42	-09	-02
10 p.	-24	+53	-10	-10	-52	-17	-42	--	+28	-10
11 Dist.	+14	+33	-39	+17	-15	-07	-09	+28	--	-03
12 P.B.	+13	-26	-23	+05	+34	+09	-02	-10	-03	--
13 P.E.	+17	-52	+30	-02	+27	+01	-06	-23	-51	+19
14 F.	+09	+18	+10	-04	-07	-06	+25	-10	-02	-23
15 T.	+09	-27	+20	-36	+57	+23	+55	-44	-58	-02
16 Sol.	+09	-27	+30	-25	+36	+33	+25	-44	-30	+19
17 Act.	+27	-27	+10	-36	+36	+33	+40	-21	-30	+19
18 Out.	-09	-09	+36	-77	+30	+37	+18	-14	-39	+23
20 V.P.	-10	00	00	-04	+36	+23	+25	-44	-02	+09
21 Dep.	-08	-40	+43	-18	+49	+20	+37	-46	-65	+15
4 No. rels.	-09	-82	-08	+04	+54	+06	+04	-51	-43	+12
IQ	-08	-20	+17	+12	+11	+43	+24	-32	-17	+03
A Age	00	-16	-08	+20	-19	-48	+04	+14	-16	-12
EL Ed. level	-01	-30	+12	-12	+41	+20	+18	-48	-54	-03
SC Soc. class	+08	-14	+22	-18	+30	+12	+06	-09	-78	-03

TABLE 7-18 Part I.

Study B. Intervariable Coefficients. Male Candidates.

Arranged according to Scoring System.

	13	14	15	16	17	18	20	21	4	IQ	A	EL	SC
1	+17	+09	+09	+09	+27	-09	-10	-08	-09	-08	00	-01	+08
3	-52	+18	-27	-27	-27	-09	00	-40	-82	-20	-16	-30	-14
5	+30	+10	+20	+30	+10	+36	00	+43	+03	+17	-08	+12	+22
6	-02	-04	-36	-25	-36	-77	-04	-18	+04	+12	+20	-12	-18
7	+27	-07	+57	+36	+36	+30	+36	+49	+54	+11	-19	+41	+30
8	+01	-06	+23	+33	+33	+37	+23	+20	+06	+43	-48	+20	+12
9	-06	+25	+55	+25	+40	+18	+25	+37	+04	+24	+04	+18	+06
10	-23	-10	-44	-44	-21	-14	-44	-46	-51	-32	+14	-48	-09
11	-51	-02	-58	-30	-30	-39	-02	-65	-43	-17	-16	-54	-78
12	+19	-23	-02	+19	+19	+23	+09	+15	+12	+03	-12	-03	-03
13	--	-09	+40	+40	+40	+18	+20	+41	+73	+36	-07	+34	+37
14	-09	--	+04	-15	-15	+04	+30	-23	-13	+16	-15	-06	-25
15	+40	+04	--	+39	+39	+43	+22	+79	+43	+27	-14	+33	-18
16	+40	-15	+39	--	+22	+52	+22	+57	+43	+16	-43	+33	+32
17	+40	-15	+39	+22	--	+34	+13	+37	+22	+06	-04	+14	+59
18	+18	+04	+43	+52	+34	--	-04	+33	+13	-06	-13	+06	+25
20	+20	+30	+22	+22	+13	-04	--	+16	+24	+48	-24	+43	+18
21	+41	-23	+79	+57	+37	+33	+16	--	+52	+15	-04	+43	+34
4	+73	-13	+43	+43	+22	+13	+24	+52	--	+33	-05	+48	+55
IQ	+36	+16	+27	+16	+06	-06	+48	+15	+33	--	-23	+43	-12
A	-07	-15	-14	-43	-04	-13	-24	-04	-05	-23	--	-37	-10
EL	+34	-06	+33	+33	+14	+06	+43	+43	+48	+43	-37	--	+75
SC	+37	-25	+18	+32	+59	+25	+18	+34	+55	-12	-10	+75	--

TABLE 7-18. Part II.

Study B. Intervariable Coefficients. Male Candidates.

Arranged according to Scoring System.

The two common members are Level of Education and Verbal Productivity. This cluster seems to represent Fluency of Thought and Expression. It should also be noted that the three members for the male group are among the best predictors of the criterion for this group.

In addition to these common clusters, there were also three "dyads" which appeared in both of the Hierarchical Analyses.

These were :	Age	-	Solution
	Favorability	-	Negative Press
	Ambiguity of Press	-	Thought

STUDY B. : INTER-SUBJECT CLUSTER ANALYSIS.

In order to see whether or not there were different kinds of accepted and rejected candidates, an inter-subject cluster analysis was carried out.

Elementary Linkage Analysis was again used. Separate first order analyses were carried out for each of the accept and reject groups. These were followed by two second order analyses for the male and the female groups respectively.

Male Accepted Candidates Group.

Four clusters appeared here, but their definition was weak, as the matrix of indices of correlation from which they were drawn contained many ties, making alternate patterns of clusters equally plausible. When a second order analysis was carried out several individuals changed "allegiance" and became associated with a second order cluster different from that of the first order cluster with which they were originally associated. Two second order clusters were found, and differences between them appeared to be related to "optimism-pessimism".

Male Rejected Candidates Group.

A total of five clusters emerged, the largest having six members and the smallest having three. A second order analysis of these clusters yielded two second order clusters with three first order clusters

in the first and two in the second. The only differences for the second order clusters were "past events" and "favourability of outcome".

Intercorrelations of the male clusters.

When a second order analysis was carried out on the three clusters from the accept group and the five clusters from the reject group, two second order clusters emerged.

The first cluster, which, labelled Alpha, contained three of the clusters from the reject group in addition to one cluster from the accept group. Beta, the second cluster comprised the two larger clusters from the accept group plus clusters II and V of the reject group.

On examining the intelligence scores of these groups, it became manifest that the second order analysis had divided the groups according to the intelligence scores of the members. 15 out of the 17 members of Alpha are below the cutting point on intelligence, whereas 19 of the 23 members of Beta are above it.

These results indicate that there is no important differentiation in terms of "types" for the male candidates. Differences between the accepted and rejected candidates can probably be handled adequately in terms of differences on dimensions such as intelligence and the TAT scores.

Unfortunately a curvilinear relationship between

Word Count and Intelligence and skewed distribution for the sum of Wyatt variables ruled out the calculation of Pearson product moment correlations, and thus a multiple regression equation for the criterion. However a multiple correlation of Intelligence and the sum of the Perceptual Organization variables was calculated and found to be .73.

The Female Clusters.

The Accepted Group produced three clusters and a dyad. While the rejected group similarly produced three clusters and two dyads.

In order to compare the scores of all six clusters, an index was devised by dichotomising the scores on each variable and then contrasting the scores obtained by the members of the cluster with the scores obtained by non-members. This gives a twoxtwo contingency table for which the statistic $\phi/\phi \text{ max}$ can be calculated. This index then enables a comparison of the clusters to be made.

The indices are presented in Table 7-19.

Accepted Group : Cluster I (AI).

This group appears to be young and generally optimistic. They are the youngest of the six clusters. They are also high on Positive Press, low on Negative Press, high on Positive Attitude, Solution, Favourability of outcome and are low on distancing. They are somewhat above average on Ambivalent Press, and Ambivalent Press with Positive Attitude, Activity, Feelings,

TABLE 7-19Comparison of the Clusters for the Female Groups.

Cluster	AI	AII	AIV	RI	RII	RIII
Number of members	11	4	7	9	5	6
1) More than 1 ff ¹	.24	-.04	-.45	-.15	<u>-.62</u>	.30
2) At least 1 ff ¹	-.07	<u>1.00</u>	-.16	.24	<u>1.00</u>	-.02
3) At least 1 rel ²	-.03	-.11	-.49	-.21	<u>.54</u>	<u>.62</u>
4) Number of rels ²	.01	.45	-.21	-.38	<u>.56</u>	.24
5) Positive press	<u>.71</u>	.20	-.38	.29	<u>1.00</u>	<u>-.78</u>
6) Few negative press	<u>.68</u>	-.43	<u>-.67</u>	-.49	.29	.11
7) Ambivalent press	.25	<u>1.00</u>	<u>-.61</u>	-.09	.26	<u>1.00</u>
8) A.P. ³ with P.A. ⁴	.35	<u>-1.00</u>	<u>-1.00</u>	<u>-1.00</u>	.28	.20
9) Positive attitude	<u>.81</u>	<u>-.52</u>	-.45	-.36	.17	-.36
10) Any press	.45	.25	-.36	.00	<u>1.00</u>	-.25
16) Solution	<u>.62</u>	-.04	-.18	<u>-.57</u>	<u>.58</u>	-.29
17) Activity	.27	.00	-.43	-.11	<u>.60</u>	<u>-.66</u>
18) Outcome	<u>1.00</u>	<u>-.52</u>	-.45	-.26	<u>1.00</u>	<u>-.68</u>
11) Distancing	<u>.56</u>	.05	-.28	-.02	.20	<u>1.00</u>
12) Present Behaviour	.21	-.08	.06	-.38	<u>.56</u>	.27
13) Past events	.13	-.48	.45	-.30	<u>.62</u>	-.04
14) Feelings	.45	.25	-.36	<u>.66</u>	-.04	.00
15) Thought	.25	.17	-.20	-.36	.01	.17
20) Verbal Productivity	.24	.48	.40	<u>-.57</u>	<u>.58</u>	.30
21) Depth	.48	-.48	<u>-.70</u>	<u>-.77</u>	<u>1.00</u>	<u>.68</u>

Cluster	AI	AII	AIV	RI	RII	RIII	145.
Number of members	11	4	7	9	5	6	
Involvement	.14	-.43	<u>-1.00</u>	-.49	<u>.64</u>	.41	
Intelligence	.01	-.09	<u>.69</u>	-.42	.13	.27	
Social Class	-.40	-.17	<u>.72</u>	-.17	.17	<u>-1.00</u>	
Educ. level	-.05	<u>1.00</u>	.47	-.37	.37	.37	
Age	<u>-.76</u>	.46	<u>-.62</u>	<u>.80</u>	.36	.04	

TABLE 7-19

notes :

- 1 ff = focal figure
- 2 rel = relationship
- 3 A.P. = ambivalent press
- 4 P.A. = positive attitude

Thought, Word Count, Depth, Social Class and below average on Absence of Press.

Thus, they write TAT stories which are on the whole above average but which are really only outstanding in terms of their optimism.

Accepted Group : Cluster II (AII).

The four members of this cluster were in contrast to the other two accepted group clusters, above average in age. They were also high on educational level, but average on intelligence and social class. Although they told quite long stories, these were comparatively shallow in structure and lowish on the "Involvement" variables generally. This latter result would seem to be due to their low score on Positive Attitude and on Ambiguous Press with Positive Attitude. Although they had a high number of Ambiguous Press they were also above average with Negative Press. Collectively this indicates an uncertain and worried outlook which may be due in part to the immediate testing situation.

Accepted Group : Cluster IV (AIV).

This cluster was also younger than the average. They were high on intelligence, social class and educational level, but low on almost all of the TAT variables, being above average only on Past Behaviour and the word Count. One assumes either that they were accepted because of their intelligence, background and social fluency, or that they had empathetic qualities which were not revealed in the TAT. The slightly worse

than average score on Distancing is compatible with this latter explanation.

Rejected Group : Cluster I (RI).

The members of this cluster were collectively the oldest of the six. Their TATs were generally poor, the only outstanding positive aspect being their perception of feelings on the TAT. The intelligence scores were the lowest of the six clusters. Together then, these results suggest that the members of this cluster appeared "too old" for counselling.

Rejected Group : Cluster II (RII).

The five members of this cluster constitute somewhat of a puzzle. Collectively, they were the highest cluster on the sum of the "Involvement" variables, Depth of stories and length of stories. They saw the environment pressures as being benign (highest on Positive Press and high on Favourability of outcome) and were also high in perceptions of activity. Generally this group would seem to have a favourable TAT. When their TAT performance is studied as a whole, however, certain other characteristics emerge. Despite the longer stories which they told, they were the lowest cluster on "more than one focal figure". This suggests that they were lacking in ability to see situations from more than one viewpoint. They were also average in their description of the feelings and thoughts of the characters in the stories. This suggests, then, that the high scores were the reflection of stories

which described the behaviour and relationships of the TAT characters and the (benign) nature of the environment. However, their stories were concerned to a lesser extent with the "endopsychic" level of activity, and everything was seen from the viewpoint of one focal figure only. In this respect, their stories are "superficial".

Rejected Group : Cluster III (RIII).

Although this cluster told moderately good stories in terms of the sum of the "Wyatt" variables, length and "Depth", they were rather pessimistic, seeing few Positive Press in the stories, but a large number of Ambiguous Press, with little Positive Attitude. The figures in the stories were also seen as being low in Activity and the Outcomes were unfavourable.

In this respect this cluster seems similar to Cluster AII. There are however certain differences in the kind of attitudes expressed. With AII it is Negative Press which is seen as being present, and this is faced with Activity, although not with Positive Attitude. In RIII stories it is Positive Press which is absent, and this is met with inactivity. Both clusters are similar in their perception of Ambiguous Press and in their lack of Positive Attitude.

Second Order Cluster Analysis of the Female Candidates.

When a second order analysis was carried out, two second order clusters emerged. One of them contained

the two rejected groups RIII and RI, the other contained the accept groups. The other reject group RII was equally linked with the two other reject groups and the accept group AII. This ambiguity of cluster membership, which is possible with the kind of cluster analysis used, reflects the more "positive" TAT stories of this reject group. On the whole the analysis suggests that the accept groups have more in common with each other than with the reject groups. Nevertheless the interrelations are not very high and this cannot be interpreted as there being a unitary "accept type".

A Comparison of the Linkage Analysis Clusters and Delegate Analysis.

Semeonoff (1959) has carried out a delegate analysis of the counsellor candidates. There are several differences between this earlier analysis and the present one. Semeonoff carried out his analysis on a combined group of male and female candidates, different variables having been used, and the statistical techniques are somewhat different. Nevertheless in the light of Raven and Ritchie's finding that Linkage Analysis and factor analysis (principal components) can yield similar results, it is interesting to compare the two sets of findings.

Semeonoff obtained four polar factors while the present analysis yielded six "types".

Semeonoff's Factor II was found to contain the following characteristics :

Projects readily, much endopsychic content, focal figure shows resolution (positive attitude), does not

make slips on easy abstractions (moderately high intelligence ?), not too old, many different relationships, distancing.

Cluster RI would seem to be low on almost all of these characteristics, i.e. to lie at the opposite pole. Thus :

<u>Factor II</u>	<u>Cluster RI</u>	
Projects readily	Word Count	-.57
	Depth	-.77
Much endopsychic content	Involvement	-.49
	Feeling	+.66
	Thought	-.36
Positive Attitude	Ambiguous Press and Positive Attitude	-1.00
	Positive Attitude	-.44
Does not make slips on easy abstractions	Intelligence	-.42
Not "too old"	Age	+.80
Many different relationships	No. of relationships	-.37
Distancing	Distancing	-.02

TABLE 7-20

The only discrepancies are the use of "Feeling" and Distancing. However, although candidates high on Factor II "put much endopsychic content into the TAT", they also found "the emotional implications of TAT 6GF and 10 rather disturbing". This could well have led them to be low on the expression of the figures'

feelings. Or, seen in terms of the polar opposite, the high stimulus pull on these cards allowed those candidates low on Factor II to describe the feelings of the figures, in spite of their generally low endo-
psychic content.

There is also some indication that those high on Factor 3 correspond to Cluster AII :

<u>Factor 3</u>	<u>Cluster AII</u>	
No plot	Depth	-.43
	Present Behaviour	-.08
	Past Behaviour	-.48
No Positive Attitude	Ambiguous Press with Positive Attitude	-1.00
	Positive Attitude	-.52
Too non-U	Social Class	-.17
	Educational Level	1.00
Difficult abstractions failed	Intelligence	-.09

TABLE 7-21

With the exception of the non-U variable, then, where the variables used overlap, the two groups seem to coincide.

Factor 4 would seem to be related to Cluster AIV and at its opposite pole, to Cluster RII.

<u>Factor 4</u>	<u>Cluster AIV</u>		<u>Cluster RII</u>
Difficult abstractions correct	Intelligence	+.69	+.13
Endopsychic content	Feeling	-.36	-.04
	Thought	-.25	+.01
No plot on TAT 3	Depth	-.70	+1.00
	Past	-.48	+.68
"too young"	Age	-.62	+.36
Only one relationship on TAT 3	No. of relationships	-.21	+.56
No Positive Attitude on TAT 2	Pos. Att. and Amb. Press	-1.00	+.28
	Positive Att.	-.50	+.17

TABLE 7-22

Thus, with the exception of the Endopsychic variables, the overlap would seem to be in correspondence.

In summary form, the resemblances seem to be as follows :

<u>Factor</u>	<u>Cluster</u>
I	?
-II	RI
III	AII
IV	AIV
-IV	RII
?	AI
?	RIII

TABLE 7-23

Thus there is a certain similarity between the two analyses. This reinforces the suggestion that, for the female candidates, there is no one dimension of acceptability but rather there are different types of acceptable and non acceptable candidates.

THE RESULTS FOR INDIVIDUAL VARIABLES : INTRODUCTION

Because of the large number of comparisons which are being made certain abbreviations have been used. Only means, the probabilities of the differences being due to chance and the statistical test used are given in the following part of the section. ~~Other information has been placed in Appendix D.~~

The reliabilities are based on the Spearman-Brown Correction. Rho has been used in Study A and Pearson's r in Study B.

The following abbreviations have been used in Tables 7-24 to 7-58 :

S = Standard Cards NS = Non Standard Cards

A = All 8 Cards

ns : statistically insignificant differences between the means.

* : trend towards significance, $p \angle .10$

** : $p \angle .05$ *** : $p \angle .01$ **** : $p \angle .001$

w : Wilcoxon matched-pairs signed-ranks test.

t : t-test

j : Festinger's j-test. Unless otherwise indicated the tests were one tailed.

STUDY AAccepted Candidate
Higher

12

Rejected Candidate
Higher

4 ** (w)

STUDY B : Means (t,i.e. t-test used)

<u>Males</u>			<u>Females</u>			<u>Combined</u>		
acc.	rej.		acc.	rej.		acc.	rej.	
S	302.2	243.8 ***	269.0	235.2 ns		285.6	239.3 ****	
NS	316.3	258.0 **	298.4	238.5 ***		307.4	247.8 ****	
A	618.5	501.8 ***	567.5	473.7 ***		593.0	487.1 ****	

Reliability

Study A

0.85

Study B males

0.95

Study B females

0.90

TABLE 7-24 : Word Count.

This variable is clearly related to the criterion. A significant difference appears in all of the comparisons, except that of the unmatched female candidates on the standard cards. This may be due to the fact that more conventional stories are possible and it is therefore easier to write longer stories.

A reason for the significance of the differences may be the high reliability of this variable, which lies in the region of 0.9. This is comparable to the kind of reliabilities obtained by "paper-and-pencil" tests. It also shows that picture effects cannot be very great, although in the case of

women storytellers they may exist.

The word count was found to be correlated with intelligence in Study B. The correlations (Pearson r) were in the region of .43 for the male candidates and .38 for the females. These correlations are similar to that found by Webb and Hilden (1953). However, examination of the scatter diagrams indicates that there is, in fact, a curvilinear relationship. The trend is such that length of story is linearly related to intelligence for the lower half of the intelligence scales but is unrelated for the upper half. This is also reflected in the scores obtained for the accepted and rejected candidates respectively. (The accepted candidates of both sexes having higher intelligence test scores).

	Male	Female
Accepted	0.09	0.17
Rejected	0.37	0.42

TABLE 7-25 : Correlations between length of story and intelligence.

This result makes sense as it is to be expected that low intelligence, or poor test taking ability, is likely to result in a lowish performance on the TAT. Higher intelligence on the other hand is not by itself sufficient to produce very long stories.

The word count is, as would be expected, related to several of the other scores. The results from Study A yielded the following correlations :

0.73 with Perceptual Organization, 0.68 with Involvement, 0.49 with Depth of Structure, 0.37 with Time Span. The content variables were not closely related to the word count, but this may be due in part to the lower reliability of some of these scores. The correlations were 0.27 with Coping Behaviour, 0.22 with Motivation Index and 0.07 and 0.02 with Plans and Ego Strength respectively.

In the inter-subject Cluster Analysis, word count was not a characteristic of any female "accept" clusters but was one of the distinguishing features between the first and the second female "reject" clusters.

The findings of Study A were also replicated in the inter-variable analysis in Study B. Here word count was associated in the female group with Number of Personal Relationships, Ambivalent Press with Positive Attitude, Feeling and Thought, Coping Behaviour and Depth, as well as intelligence, age and especially level of education.

In the male group it was less central, the only indices above .29 being with Ambiguous Press, Absence of Press, Feeling, intelligence and level of education. It was again in the educational level/productivity cluster.

This difference between sexes mirrors that of Dana (1959b) who found length of story to be related to Perceptual Organization ($r = .55$) in a sample of female students, but not for a male sample ($r = .23$). The

pattern was different however for neurotic and psychotic groups.

Thus the word count is related to various TAT and non TAT variables. The relation with level of education is not surprising and confirms the necessity of taking this latter factor into consideration when analysing TAT protocols. It appears to be more influential upon the "formal scores" in the male group and the "content scores" in the female group.

STUDY A

	Accepted Candidate Higher	Rejected Candidate Higher
Prospective Span	7	5 ns (w)
Retrospective Span	10	6 ns (w)
Combined Score	10	6 ns (w)

Reliability of Combined Score : 0.60

TABLE 7-26 : Temporal Span

The results from Study A suggest that there is little difference between the two groups and that it could be due to chance. It is a moderately reliable variable and was also correlated with several other formal variables, namely : Depth ($\rho = 0.64$), Involvement (0.57), and Perceptual Organization (0.51). The rank correlation with Verbal Productivity was 0.37. Temporal span is thus a measure of the more complex structural aspects of the story. In the light of the relations of these variables with the criteria,

Temporal Span's lack of relation is interesting. It is noticeable that Future Events in the "Perceptual Organization" variables was also unrelated to the criterion. These results would seem to argue in favour of Rokeach's interpretation that concern with the future in the TAT is an indication of close mindedness (Rokeach, 1960). Epley and Ricks (1963) also noted as one of the characteristics of men with long prospective spans that their defenses were strong and their thinking "orderly and logical, though not often imaginative". (p.54).

One possibility is that prospective span is correlated with a kind of "healthy" dogmatism, in that the person with a high score must have a structured phenomenological world, but is capable of creating the necessary structure for himself and thus does not exhibit any indications of anxiety. As Murray (1959, p.36) has noted, conformity to the demands of time is a necessary requirement for adaptation to our society, and on the whole a person who so conforms will be classified as adjusted.

He or she would not however, in the opinion of the selection board, necessarily make a good counsellor.

STUDY AAccepted Candidate
Higher

11

Rejected Candidate
Higher

4 * (w)

STUDY B : Means (t)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	3.71	2.96	**	3.46	3.54	ns	3.58	3.26	ns
NS	3.58	3.05	ns	3.92	3.00	**	3.75	3.02	**
A	7.29	6.00	**	7.38	6.54	ns	7.33	6.28	**

Reliability

Study A

0.66

Study B males

0.32

Study B females

0.58

TABLE 7-27 : Depth.

This variable distinguishes between the two groups as predicted, when the overall results are considered. However there was effectively no difference using the standard cards between the female groups in Study B. The reliability is modest, and the results suggest that two different kinds of effects may be being measured. With the standard cards, storytellers who write very conventional stories may be able to score highly on Depth. However with the non-standard cards it is less easy to tell conventional stories, and in this case Depth may be associated with imagination.

In Study A Depth was correlated (using rho) with

Time Span (0.64), Perceptual Organization (0.60). It was also related to a lesser extent with length of story (0.49) and Involvement (0.49). This bears out the concept that it is a measure of the structure of the story.

In Study B, a low depth score was characteristic of members of the fourth female accept cluster, while the main female reject cluster was also low. The two other reject clusters were high.

In the inter-variable analysis Depth turned out to be a central variable for the male group, being associated with all the variables in the "formal cluster" and in addition being associated with Positive Press (0.43), Positive Attitude (0.37) and Coping Behaviour (0.57, 0.37 and 0.33). These latter relations demonstrate the way in which formal factors underly scores of the "content" of the protocol.

In the female group Depth was less central and was in a single dyad with Distancing. However it was again associated with many of the scores in the "content" cluster. It was also associated with the Verbal Productivity in the female group only.

To summarize, this variable would appear to be measuring the complexity of the plot of the story and as this becomes more complex, the scores of many of the other variables become higher. The fact that in the male group it is associated with level of education but not length of story or intelligence is also interesting.

PERCEPTUAL ORGANIZATION

STUDY A

Accepted Candidate
Higher

Rejected Candidate
Higher

5

1 ns (w)

STUDY B : Means (j) (P.B. absent)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	.29	.55	ns	.46	.58	ns	.38	.57	ns
NS	.58	.68	ns	.29	.71	ns	.44	.70	ns
A	.88	1.23	ns	.75	1.29	**	.81	1.26	**

TABLE 7-28 : Present Behaviour.

There is a tendency for the accepted candidates to be higher on this variable. However significant differences were obtained only with all eight cards for the female and combined groups of the unmatched sample.

In the inter-variable cluster analyses it did not appear to be related to any other kind of variable. One noticeable feature is that it is not associated with the length of story, and it would seem to be a more or less independent stylistic variable. It is also unrelated to the other perceptual organization variables. Part of the reason for the "independence" of this variable may lie in the small range of scores with almost all the candidates making full use of it.

STUDY AAccepted Candidate
HigherRejected Candidate
Higher

10

6 * (w)

STUDY B : Means (j)

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	1.79	.82 **	.83	.67 ns	1.31	.74 **
NS	1.50	.91 ns	1.17	.75 ns	1.33	.83 **
A	3.29	1.73 **	2.00	1.42 ns	2.65	1.57 ***

TABLE 7-29 : Past Events.

There is a tendency for accepted candidates to make more use of this variable than the rejected candidates. However this is more true for men than for women.

In the inter-variable analyses it was associated with the two Personal Relationship variables for both the sex groups. In the female group it was also associated with Age, but with none of the other scorers. In the male group it was associated with a range of other scores, including Intelligence and Level of Education, which may account for its better differentiating power with male candidates.

STUDY AAccepted Candidate
Higher

5

Rejected Candidate
Higher

4 ns (w)

TABLE 7-30 : Future Events.

There was no difference between the two groups and this score was not used in Study B.

STUDY AAccepted Candidate
Higher

10

Rejected Candidate
Higher

1 ** (w)

STUDY B : Means (j)

<u>Males</u>			<u>Females</u>			<u>Combined</u>		
acc.	rej.		acc.	rej.		acc.	rej.	
S	3.17	2.82 ns	2.83	2.88 ns		3.00	2.85 ns	
NS	2.50	2.23 ns	2.71	2.67 ns		2.61	2.43 ns	
A	5.67	5.05 *	5.54	5.54 ns		5.60	5.30 ns	

TABLE 7-31 : Feelings.

A significant difference between the matched samples appeared for this score. However there was no difference between the unmatched female samples, although there was a near significant difference for the male groups.

The first female reject cluster obtained the highest score on this variable, this being their only "positive" characteristic, while the "intellectual"

third accept cluster were lowest. The means obtained in Study B also indicate that it is dependent upon the pictures used.

STUDY A

Accepted Candidate
Higher

6

Rejected Candidate
Higher

5 ns (w)

STUDY B : Means (j)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	rej.		acc.	rej.		acc.	rej.
S	1.83	1.32 ns		2.04	1.83 ns		1.94	1.59 ns
NS	2.21	1.46 **		2.04	1.88 ns		2.13	1.67 **
A	4.04	2.77 **		4.08	3.71 ns		4.06	3.26 **

TABLE 7-32 : Thought.

No significant differences were found for the predominantly female matched samples and the female unmatched samples. Significant differences did appear for the male groups of the non-standard and scorers for all eight cards. These significances were also reflected in the overall differences between the accepted and rejected groups in the unmatched sample.

Thought was related to a variety of other variables, both formal and content, for both groups in Study B. It would seem to be a "favourable" variable only for male candidates however.

STUDY AAccepted Candidate
Higher

6

Rejected Candidate
Higher

7 ns (w)

TABLE 7-33 : Outcome.

No difference within the groups was found and this variable was not used in Study B.

STUDY AAccepted Candidate
Higher

6

Rejected Candidate
Higher

9 ns (w)

TABLE 7-34 : Card Description.

There was no difference between the accepted and rejected candidates.

TABLE 7-35 :STUDY AAccepted Candidates
Higher

11

Rejected Candidates
Higher

4 ** (w)

STUDY B : Means (t)Males

acc. rej.

Females

acc. rej.

Combined

acc. rej.

S	10.50	8.41	****	9.25	8.79	ns	9.89	8.61	****
NS	9.63	7.91	***	9.63	8.58	**	9.63	8.26	***
A	20.13	16.32	****	18.88	17.37	*	19.52	16.87	****

<u>Reliability</u>		
Study A	Study B males	Study B females
0.63	0.75	0.58

TABLE 7-35 : Total of Perceptual
Organization Variables

A significant difference was found for the sum of all seven components with the matched sample. Replication with the unmatched samples with four of the more discriminating of the seven variables (present behaviour, past events, feeling and thought) again gave significant differences, except for the females on the comparison with standard cards, and with all eight cards. It should be noted that the difference for the male groups was highly significant.

The overall "Perceptual Organization" score is moderately reliable, particularly so for the men in this population (0.75).

The inter-variable analyses indicated that these variables were not closely interrelated and in neither group did all four Perceptual Organization variables fall into the same clusters. Rather than measuring one aspect of TAT performance, Perceptual Organization would seem to be a broad measure of adequacy of various aspects.

INVOLVEMENT

These scores were also used by Semeonoff (1958). To enable a comparison to be made, Semeonoff's results have been included in the tables.

Personal Relationships.Semeonoff

Mean of the
Accept Group

8.19

Mean of the
Reject Group

7.00 $r_{bis} = 0.25$ **

STUDY A

Accepted Candidate
Higher

7

Rejected Candidate
Higher

8 ns (w)

STUDY B : Means (t)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	rej.		acc.	rej.		acc.	rej.
S	5.79	4.86 **		5.04	4.71 ns		5.42	4.78 **
NS	4.46	3.73 ns		4.58	3.96 ns		4.52	3.85 **
A	10.25	8.59 **		9.63	8.67 ns		9.94	8.63 **

TABLE 7-36a : Total Number of Relationships.

SemeonoffMean of the
Accept Group

1.19

Mean of the
Reject Group1.12 $r_{bis} = ns$ STUDY AAccepted Candidate
Higher

10

Rejected Candidate
Higher

4 ns (w)

TABLE 7-36b : Spouse Relationship.SemeonoffMean of the
Accept Group

1.49

Mean of the
Reject Group2.45 $r_{bis} = .38 **$ STUDY AAccepted Candidate
Higher

5

Rejected Candidate
Higher

7 * (w)

STUDY B : Means (j)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	Rej.		acc.	rej.		acc.	rej.
S	.38	.59 ns		.63	.46 ns		.50	.52 ns
NS	1.08	1.37 ns		.88	1.46 **		.98	1.41 **
A	1.46	1.96 ns		1.50	1.92 ns		1.48	1.94 ns

TABLE 7-36c : Stories not mentioning Relationships.

On the whole, two scores in this group discriminated between the accepted and rejected candidates. These were "Total Number of Relationships" and "No mention of Relationships". There was no significant difference in the number of times the accepted and rejected candidates made mention of the Spouse Relationship.

In the inter-variable cluster analyses the first two variables were associated with each other and with the Past Events score of Perceptual Organization. In the female group these three formed an independent cluster, while in the male group this cluster became part of the broader "formal scores" cluster. In both groups the two personal relationship scores were associated with Ambiguous Press, Absence of Press, Distancing, Thought and Depth. They thus appear as formal variables measuring certain aspects of story telling. As with "past events" they would seem to be better discriminators for male rather than female candidates.

Focal Figures.SemeonoffMean of the
Accept Group

4.75

Mean of the
Reject Group4.37 $r_{bis} = 0.17$ nsSTUDY AAccepted Candidate
Higher

11

Rejected Candidate
Higher

4 ** (w)

STUDY B : Means (j)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	rej.		acc.	rej.		acc.	rej.
S	1.75	1.32 ns		1.63	1.58 ns		1.69	1.46 ns
NS	.83	.68 ns		.67	.75 ns		.75	.72 ns
A	2.58	2.00 *		2.29	2.33 ns		2.44	2.17 ns

TABLE 7-37 : Number of Stories with more than OneFocal Figure.

Only one significant difference was found, namely between the matched samples. The results for Study B indicated however that this score is very dependent on the pictures used, with the score being much higher with the standard pictures.

In the inter-variable analysis this score was an isolate and in both the male and female groups it was not associated with any of the clusters. It also appears to be independent of intelligence and level of

education, which may explain in part why a significant result was obtained when these variables were kept constant.

Semeonoff

Mean of the
Accept Group

3.32

Mean of the
Reject Group

3.00 $r_{bis} = 0.14$ ns

STUDY A

Accepted Candidate
Higher

7

Rejected Candidate
Higher

5 ns (w)

TABLE 7-38 : Number of Stories with more than one "Full"

Focal Figure.

No significant difference was found for this variable, the results from Study A corresponding to those found by Semeonoff.

Semeonoff

Mean of the
Accept Group

0.09

Mean of the
Reject Group

0.36 $j = 4.00$ **

STUDY A

Accepted Candidate
Higher

3

Rejected Candidate
Higher

5 ns (w)

TABLE 7-39 : Number of Stories with no Focal Figure.

Although Semeonoff (1958) found a significant difference, this was not replicated in the matched sample.

Structure.

Semeonoff

Mean of the
Accept Group

2.98

Mean of the
Reject Group

2.05 $r_{bis} = .23$ ns

STUDY A

Accepted Candidate
Higher

5

Rejected Candidate
Higher

8 ns (w)

TABLE 7-40a : Plot.

Semeonoff

Mean of the
Accept Group

4.45

Mean of the
Reject Group

4.81 $r_{bis} = -.09$ ns

STUDY A

Accepted Candidate
Higher

11

Rejected Candidate
Higher

3 ** (w)

TABLE 7-40b : Situation.

SemeonoffMean of the
Accept Group

0.32

Mean of the
Reject Group0.52 $j = 1.63$ nsSTUDY AAccepted Candidate
Higher

4

Rejected Candidate
Higher

7 * (w)

TABLE 7-40c : Description.SemeonoffMean of the
Accept Group

0.09

Mean of the
Reject Group0.31 $j = 3.44$ **STUDY AAccepted Candidate
Higher

1

Rejected Candidate
Higher

1 ns (w)

TABLE 7-40d : Association.

Overall, these scores did not differentiate between the accepted and rejected candidates, there being only two significant differences in the eight comparisons.

Level of Interpretation.SemeonoffMean of the
Accept GroupMean of the
Reject Group

5.83

4.91 $r_{bis} = .27^{**}$ STUDY AAccepted Candidate
HigherRejected Candidate
Higher

3

6 ns (w)

TABLE 7-41a : Endopsychic.SemeonoffMean of the
Accept GroupMean of the
Reject Group

1.17

1.36 $j = -1.16$ nsSTUDY AAccepted Candidate
HigherRejected Candidate
Higher

7

4 * (w)

TABLE 7-41b : Concrete-Factual.SemeonoffMean of the
Accept GroupMean of the
Reject Group

0.23

0.52 $j = 2.26^{**}$ STUDY AAccepted Candidate
HigherRejected Candidate
Higher

0

2 ns

TABLE 7-41c : Symbolic.

SemeonoffMean of the
Accept GroupMean of the
Reject Group

0.69

1.05 $j = 1.57$ nsSTUDY AAccepted Candidate
HigherRejected Candidate
Higher

3

3 ns

TABLE 7-41d : Conditional.

Of the four scores, two were found to yield significant differences by Semeonoff, but not in Study A. Comparison of the means obtained by Semeonoff in the pilot study indicated considerable differences which suggests that the results may be due to inter-scorer inconsistency.

SemeonoffMean of the
Accept GroupMean of the
Reject Group

1.04

0.83 $j = 1.25$ nsSTUDY AAccepted Candidate
HigherRejected Candidate
Higher

5

3 ns (w)

TABLE 7-42 : Proper Names.

The difference between the accepted and rejected groups is in both cases small. The failure of this score to discriminate may be that it is "too obvious" in a situation where most of the candidates are seeking

to demonstrate their capacity for empathy.

Semeonoff

Mean of the Accept Group	Mean of the Reject Group	
0.53	0.40	$j = 1.33$ ns

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher	
3	3	ns

TABLE 7-43 : Conversation.

No significant differences were obtained with this score.

Semeonoff

Mean of the Accept Group	Mean of the Reject Group	
1.70	2.50	$r_{bis} = 0.25$ **

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher	
2	5	* (w)

STUDY B : Means (chi² was used)

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	.21	.45 ns	.21	.21 ns	.21	.33 ns
NS	.04	.32 ns	.29	.17 ns	.17	.24 ns
A	.25	.77 **	.50	.38 ns	.37	.57 ns

TABLE 7-44 : Distancing.

Although Semeonoff obtained a significant difference in his sample, the differences in Studies A and B were in the main non significant. However the differences between the means obtained by Semeonoff and the means obtained in Study B suggest that the two scorers were using different implicit standards.

Distancing in both the inter-variable analyses was associated with Depth. In the female group these two formed an isolated dyad, while in the male group they formed a triad along with Thought, and this cluster itself was part of the second order "formal scores" cluster.

SemeonoffMean of the
Accept GroupMean of the
Reject Group

2.00

2.29

 $r_{bis} = -.17$ nsSTUDY AAccepted Candidate
HigherRejected Candidate
Higher

3

6 ns (w)

STUDY B : Means

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	.83	.68 ns ¹	1.00	.92 ns ¹	.92	.80 ns ¹
NS	1.25	.77 * ¹	1.04	.58 ** ¹	1.15	.67 ** ¹
A	2.08	1.45 * ²	2.04	1.50 ns ²	2.06	1.48 ns ²

TABLE 7-45 : Positive Press.

No predictions were made for this variable and it was included in the studies so that possible interactions with pictures and other variables could be studied. There is some evidence from Study B however that there is a difference between the accepted and rejected candidates for the non-standard pictures, the accepted candidates being higher.

In the inter-variable analysis Positive Press was linked in the male group with Negative Press and

(1) Festinger's j-test was used, two-tailed test.

(2) t-test used, two-tailed test.

Outcome from Coping Behaviour, to form an "optimism" cluster. In the female group it was associated with Absence of Press and Present Behaviour to form an isolated triad. As such the score does not appear to be a central factor.

For the female candidates, Positive Press was one of the scores which differentiated strongly between the different clusters.

Semeonoff

Mean of the Accept Group	Mean of the Reject Group	
4.68	4.19	$r_{bis} = 0.22 \text{ ns}$

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher	
7	5	ns (w)

STUDY B : Means

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	rej.		acc.	rej.		acc.	rej.
S	1.63	1.64 ns		1.79	1.71 ns		1.71	1.67 ns
NS	1.25	1.18 ns		1.67	1.67 ns		1.46	1.44 ns
A	2.88	2.82 ns		3.46	3.38 ns		3.16	3.11 ns

TABLE 7-46 : Negative Press.

This was included for the same reason as Positive Press. In this case no differences of any size were obtained.

In the male group in Study B, this score formed an

isolated cluster jointly with "Outcome" and "Negative Press". In the female group it became part of the general "Content" cluster. Thus it would seem to be a more central score in terms of the cluster analysis, although it is unrelated to the criterion.

Negative Press also discriminated between the first and third female accept clusters.

Semeonoff

Mean of the Accept Group	Mean of the Reject Group
0.96	0.60 j = 1.60 ns

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher
11	2 *** (w)

STUDY B : Means

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	1.29	1.00 ns ^j	.88	1.08 ns ^j	1.08	1.04 ns ^j
NS	1.13	1.05 ns ^j	.75	.88 ns ^j	.94	.96 ns ^j
A	2.42	2.05 ns ^t	1.63	1.96 ns ^t	2.02	2.00 ns ^t

TABLE 7-47 : Ambivalent Press

Although a highly significant difference was obtained for the matched sample, this was not found in unmatched samples by Semeonoff (1958). This suggests that this score is influenced by "extraneous" factors.

In the inter-variable analyses this score was

unrelated to educational level, and had a lowish relation with intelligence (0.29) in the women's group. In the male group it was related to educational level and social class, but not intelligence. It is not evident from these relations why only the matched sample should have given a significant difference. In terms of clusters "Ambiguous Press" was associated with "Absence of Press" and then the formal scores cluster, in the male group. However in the female group it was classified with the content variables. Perhaps the reason for this result is that it contains both "formal" and "content" components, making it liable to be affected by many situational factors.

The inter-subject analysis indicated that the fourth female cluster was low on this score while the third reject cluster was high.

Semeonoff

Mean of the
Accept Group

1.47

Mean of the
Reject Group

0.76 $j = 1.93 ***$

STUDY A

Accepted Candidate
Higher

6

Rejected Candidate
Higher

3 ns (w)

TABLE 7-48a.

STUDY B : Means

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	.25	.23	ns	.17	.17	ns	.21	.20	ns
NS	.29	.18	ns	.33	.13	ns	.31	.15	ns
A	.54	.41	ns	.50	.29	ns	.52	.35	ns

TABLE 7-48a : Ambivalent Press with Positive Attitude.

Although Semeonoff (1958) found a significant difference between the two groups, no such difference was found in the present studies. However, comparison of the means obtained by Semeonoff and the present studies indicates that the two scorers were using different "intuitive" criteria.

In the inter-variable analyses it was a member of the Positive Attitude cluster along with Positive Attitude and Activity in both groups.

	<u>males</u>	<u>females</u>		<u>males</u>	<u>females</u>
No mention of personal rels.	.33	.30	Outcome	.36	.30
			Activity	.36	.27
Number of personal rels.	.54	.36	Favourability	.30	.22
Thought	.57	.65	Depth	.49	.46
Absence of press	.52	.51			
Posit. attitude	.45	.51			

TABLE 7-48b : Relations between Ambivalent Press with Positive Attitude and other Variables.

SemeonoffMean of the
Accept GroupMean of the
Reject Group

0.57

0.17 $j = 2.76 ***$ STUDY AAccepted Candidate
HigherRejected Candidate
Higher

8

3 ns (w)

STUDY B : Means (j)

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	.58	.41 ns	.75	.54 ns	.67	.48 ns
NS	.63	.46 ns	.75	.54 ns	.69	.50 ns
A	1.21	.86 ns	1.50	1.08 ns	1.35	.98 **

TABLE 7-49 : Positive Attitude.

A significant difference was found on this variable by Semeonoff (1958) and also for the overall comparison on Study B. However the other comparisons in Study B and that of Study A did not reach significance. Comparisons of the means obtained by Semeonoff and in the present studies indicates again that slightly different standards were being used.

In the inter-variable analyses it is a member of the Positive Attitude cluster. It is also noticeable in being unrelated to educational level, intelligence, and length of story for the female group.

SemeonoffMean of the
Accept GroupMean of the
Reject Group

0.36

0.79 $j = 2.19$ ***STUDY AAccepted Candidate
HigherRejected Candidate
Higher

2

10 *** (w)

STUDY B : Means (j)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>	
	acc.	rej.		acc.	rej.		acc.	rej.
S	.25	.64 ns		.33	.33 ns		.29	.43 ns
NS	.38	1.00 ***		.54	.88 ns		.46	.94 ***
A	.63	1.64 ***		.88	1.21 ns		.75	1.41 ***

TABLE 7-50 : Absence of Press.

Significant differences (at the 0.01 level) were found by Semeonoff (1958), in Study A and in the overall comparison of Study B, for this score. However, the comparisons between the female groups in Study B did not yield significant differences. Again there is evidence from the means that different criteria were being used by the different scorers, a feature common to most of the press variables.

In the inter-variable analyses its pattern of relations differed in the two groups. In the male group it was a member of the "formal scores" cluster and was associated with length of story, level of

education and intelligence. In the female group it was in a cluster with Positive Press and Present Behaviour and was unrelated to educational level, intelligence and word count. The fact that it is unrelated to intelligence and level of education may account for the differences between the predominantly female sample in Study A and the female group in Study B.

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher
13	3 *** (w)

STUDY B : Means (t)

	<u>Males</u>		<u>Females</u>		<u>Combined</u>	
	acc.	rej.	acc.	rej.	acc.	rej.
S	3.04	1.05 ***	2.13	2.25 ns	2.58	1.67 **
NS	1.54	-.41 **	.54	-.29 ns	1.04	-.35 **
A	4.58	0.64 ***	2.67	1.96 ns	3.63	1.33 ***

Reliability

Study A	Study B males	Study B females
0.56	0.21(phi)	0.35

TABLE 7-51 : Summary of the "Involvement" Variables.

Although clear differences appear for the male candidates, the lack of difference between the female groups in Study B is somewhat surprising. Possibly relevant to this discrepancy between Studies A and B is the fact that the involvement scores are, for

female candidates, on the whole, unrelated to intelligence, age and educational level. Thus removing the influence of those variables should strengthen the relationship between the involvement score and the criterion. The low reliabilities and differences between the two sub-sets of pictures also indicate that the pictures used are an important source of variance with this score.

Coping Behaviour.

STUDY A

Accepted Candidate
Higher

Rejected Candidate
Higher

9

5 ** (w)

STUDY B : Means (t)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	34.79	34.46	ns	34.29	32.92	ns	34.54	33.65	ns
NS	34.75	32.55	*	32.33	31.50	ns	33.54	32.00	*
A	69.54	67.00	ns	66.63	64.42	ns	68.08	65.65	*

TABLE 7-52 : Solution.

STUDY AAccepted Candidate
Higher

12

Rejected Candidate
Higher

4 * (w)

STUDY B : Means (t)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	30.50	29.86	ns	31.00	31.13	ns	30.75	30.52	ns
NS	30.96	29.14	*	29.96	28.08	*	30.46	28.59	**
A	61.46	59.00	ns	60.96	59.21	ns	61.21	59.11	*

TABLE 7-53 : Activity.STUDY AAccepted Candidate
Higher

11

Rejected Candidate
Higher

5 ** (w)

STUDY B : Means (t)

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	30.46	29.00	ns	31.08	30.17	ns	30.77	29.61	ns
NS	31.25	29.55	ns	30.42	28.42	*	30.83	28.96	**
A	61.71	58.54	*	61.50	58.58	*	61.60	58.57	**

TABLE 7-54 : Favourability

STUDY A

Accepted Candidate Higher	Rejected Candidate Higher
12	4 *** (w)

Reliability

Study A	Study B males	Study B females
0.51 (all 3)	0.41	0.60

TABLE 7-55 : Activity + Favourability.

Two of these variables were significant in the matched sample A, but only Favourability demonstrated a significant difference for the overall comparison in Study B. One reason for the difference is that the non-standard cards appear more likely to discriminate than the standard cards, but being unmatched in B, the scores on these are likely to contain more error variance.

In the inter-variable analysis these variables were together in the female groups' "Content cluster" but remained in three separate clusters in the male group. In Study A, Coping Behaviour was linked most closely with the Motivation Index and Adaptive Ego Functioning.

STUDY AAccepted Candidate
Higher

12

Rejected Candidate
Higher

4 *** (w)

Reliability

Study A

0.23

TABLE 7-56 : Motivation Index.

A significant difference was obtained between the two matched groups. However the reliability of this variable was low, and it was not included in Study B, "Coping Behaviour" being retained instead. It was correlated most closely with "Coping Behaviour" and "Adaptive Ego Functioning".

STUDY A

	Accepted Candidate Higher	Rejected Candidate Higher
Consequences	7	8 ns (w)
Press	9	5 ns (w)
Cope	7	7 ns (w)
Social	7	6 ns (w)
Long Term	8	6 ns (w)
Responsible	6	9 ns (w)
Reactions	6	7 ns (w)
Total	7	9 ns (w)

Reliability of Total = .13

TABLE 7-57 : Adaptive Ego Functioning.

No systematic difference was found between the two matched groups on this variable.

It was correlated with the Motivation Index and especially with Coping Behaviour.

Given that these two scores did discriminate between the accepted and rejected candidates, it is not clear why this score should fail to do so. However it is possible that scoring the story according to isolated features rather than assessing it as a whole does lead to unsatisfactory scores.

STUDY AAccepted Candidate
Higher

12

Rejected Candidate
Higher

3 ** (w)

STUDY B : Means

	<u>Males</u>			<u>Females</u>			<u>Combined</u>		
	acc.	rej.		acc.	rej.		acc.	rej.	
S	2.67	2.36	ns	1.83	2.08	ns	2.25	2.22	ns
NS	1.75	1.23	ns	1.58	1.33	ns	1.67	1.28	ns
A	4.42	3.60	ns	3.42	3.42	ns	3.92	3.50	ns

Reliability

Study A

-0.18

Study B males

0.12 (phi)

Study B females

0.13 (phi)

TABLE 7-58 : Plans.

The results indicate two features about this variable. In the first place the reliability is exceptionally low to the point where it is virtually non-existent. Secondly, although there were no significant differences between the groups in Study B, there was a significant difference for the matched samples. This suggests that the variable is measuring different things in different stories, which are not related to each other but may be related to the criterion. However no significant differences were obtained on the unmatched samples.

SECTION 8

DISCUSSION

DISCUSSION

T.A.T. SCORES AND THE OUTCOME OF THE SELECTION BOARD

One outstanding feature of the results is the complex relationship between the TAT variables and the outcome of the selection board for women. The inter-person cluster analysis indicates that there is no single dimension or type of acceptability. This result is in accordance with Semeonoff (1959,1963) who has carried out similar analyses on this population but using a different set of variables, including those from other tests, and a different statistical technique (Sandler's Delegate Analysis).

This finding is quite an important one. From a practical viewpoint, it makes the designing of any preliminary screening procedure difficult, although it would be possible to devise such instruments, either on the basis of using indices to assign any candidate to a particular cluster, or by devising separate norms for different groups according to age, intelligence and social background.

From a theoretical viewpoint, it strongly suggests that the selection boards hold no one single stereotype of counsellor personality. In particular, the evidence suggests that relative youth would seem to be of considerable advantage. This is similar to Poser's very different study where young female students were more successful in a therapeutic relationship with

schizophrenics, compared with experienced therapists (Poser, 1966). Furthermore, the findings of Truax, Carkhuff and their associates (Carkhuff and Berenson, 1967; Truax, 1963; Truax and Carkhuff, 1967) suggest that factors such as empathy may be important, and it is plausible that the younger candidates can more readily impress the selection board that they have such qualities.

The role of age in depressing the pass rate of the 46 to 50 year old candidates is also interesting. A question which must be asked is whether the acceptance rate reflects the real absence of potential for counseling of women of this age, or whether it merely reflects their difficulty in the selection situation.

With respect to the TAT scores, these factors are important because it means that the relationship between the thematic protocols and the criterion only appears clearly when the effect of the "extraneous" variables is removed. This is not true of all the scores and those which are related to factors such as age are more likely to give significant differences in both studies A and B.

Of the individual scores used in both A and B, 12 gave differences which were at least "marginally significant" at the 0.10 level in Study A. If these 12 scores are then analysed in terms of "marginal significance" for the female group in Study B, and the relationship with age (taking 0.295 as the cutting point) the following table is obtained :

	Marginally Significant Difference in Study B.	Non Significant Difference in Study B
Related to age	4	1
Not related to age	2	5

TABLE 8-1

This trend confirms that for those variables not related to the age of the candidates, age is a source of error variance.

The results for the male candidates show quite a different picture and calculation of a regression equation would be a simple matter, if it were not for some of the curvilinear relationships between the scores.

Another noticeable feature of the results is the way in which the variables which were derived from the sum of a group of scores were much more likely to show significant differences between the accepted and rejected candidates. This is not surprising as one of the implications of the TAT being a broad-band instrument is that any single TAT score will be affected by many factors. Most of these factors, in any particular situation, will be irrelevant and thus a source of error variance. However by grouping related scores together, the reliability can be increased and the error variance diminished. A second factor may also be operating. In one sense the TAT is a choice situation for the subject. Because of the time limit he has

to choose which aspects of the picture and of the tasks of storytelling he will concentrate on. Thus, measuring any one particular aspect of the story as a measure of "involvement" or "goodness of response" may be misleading because an otherwise "good" storyteller may have chosen to focus on another aspect of the task at the expense of the one being measured. However this problem is overcome by grouping together a disparate group of scores as seems to have been done in Perceptual Organization.

The Question of Reliability.

Three measures of reliability can be applied to a TAT scoring system. These are inter-scorer, internal consistency and test-retest reliabilities. There are several difficulties in applying concepts of reliability to TAT scores (Murstein, 1963, p. 132).

Nevertheless these measures can give useful information, although the coefficients may not be strictly comparable with those gained from questionnaire measures of personality.

Test-retest reliability could not be measured for the present sample. No quantitative comparisons of inter-scorer reliability were made, partly because most of the variables used were fairly simple in nature and partly because the question of inter-scorer reliability is dependent upon the question of the validity or

or usefulness of the score. (1)

Inter-scorer reliability is a question which does not arise with questionnaire measures of personality. Possibly as the result of a certain defensiveness about the "subjectivity" of projective techniques, considerable care has been taken to ensure reasonable inter-scorer reliability in some of the recently developed scoring methods. Although this has had a positive result in producing good manuals for the scoring systems, it must be recognised that interscorer reliability can be the result of an artifact and merely the result of very intensive training in what the "correct" way is. For example, Child, Frank and Storm (1956) obtained good inter-scorer reliability but poor internal consistency. On the other hand Magnusson (1959) found that despite low inter-scorer reliabilities quite reasonable validity could be obtained by combining the ratings of more than one scorer. Thus, although inter-scorer

(1) Even very complex scores can be made reliable, from the point of view of inter-scorer consistency, if sufficient time and trouble is taken. Such reliability may only be a reflection of a common set of conventions, and need not lead to greater internal consistency, stability over time or validity. Since effort after inter-scorer consistency is likely to depend on the apparent validity of the score, it is in this way that inter-scorer reliability is secondary to validity.

reliability is a worthwhile objective, indicating that the criterion has been made explicit, it would seem best to develop this after the "validity" of a score has been investigated, rather than rely on a "conventional" agreement.

Attention was focussed instead upon the internal consistency. This was measured by correlating two halves of the test and correcting for length by means of the Spearman-Brown formula, to give an estimate for all 8 cards. The reliabilities obtained, in rank order, are given in Table 8-2.

Reliability	Score	Study	Sex	Kind of score
0.95	Productivity	B	M	F
0.90	Productivity	B	F	F
0.85	Productivity	A	F*	F
0.75	Perceptual Organization	B	M	F
0.65	Depth	A	F*	F
0.63	Perceptual Organization	A	F*	F
0.60	Coping	B	F	C
0.60	Temporal Span	A	F*	F
0.58	Perceptual Organization	B	F	F
0.58	Depth	B	F	F
0.56	Involvement	A	F*	F/C
0.51	Coping	A	F*	C
0.35	Involvement	B	F	F/C
0.32	Depth	B	M	F
0.23	Motivation Index	A	F*	C

Reliability	Score	Study	Sex	Kind of score
0.21 *	Involvement	B	M	F/C
0.13	Adaptive Ego Functioning	A	F*	C
0.13*	Plans	B	F	C
0.12*	Plans	B	M	C
0.0	Plans	A	F*	C

Coding : Study A = Study A, B = Study B.
 Sex M = Male Sample, F = Female sample,
 F* = Predominantly Female Sample.
 Kind of Score F = Formal, C = Content,
 F/C = Both.
 * phi coefficient.

TABLE 8-2 : Split-Half Reliabilities.

Generally these coefficients compare quite favourably with those cited in the literature, although the influences of picture and other factors are evident. In Study B the correlation was between the "standard" and "non-standard" pictures and thus the coefficients are probably lower than they would have been had a more homogeneous set of pictures been used.

One noticeable feature of these results is that the formal variables exhibit greater internal consistency than do the content variables. This suggests that these scores are less influenced by the pictures used. At the top of the list is Verbal Productivity (length of story).

The coefficients for this variable compare favourably with any eight-item paper and pencil measure, and a replication with a different sample, that of accountancy students, indicated that the reliability of this measure is not a characteristic only of this sample and situation. A brief TAT was given as part of an introductory social psychology course. There were 8 male and 2 female students. Using rho and the Spearman-Brown formula, a coefficient of 0.94 was obtained on a four card test. (1)

The Interrelationships between the Variables.

The three inter-variable cluster analyses also suggest that the content/form distinction is a valid one, up to a point. It is noticeable that there is a low positive relationship between most of the "formal" and most of the "content" variables. Furthermore, the content variables do not really form one group for the male subjects, and the formal clusters similarly tend to stay in small independent clusters for the females. This indicates that a certain amount of caution should be used in making generalizations about content or formal modes of analysis. As can be seen from Tables 7-15 and 7-16, the predominantly formal variable Depth of Structure is related to several of the content scores.

(1) The wide range of coefficients also indicates the dangers of generalizing about the reliability or unreliability of the TAT as such.

Obviously this distinction between formal and content variables is one which needs further investigation.

The same is also true of the variable Depth of Structure. Although not closely related to the criterion it does seem to have many relationships with the other TAT scores. This indicates that the structure of the story is an important determinant of many of the other thematic scores. This would still hold true if the effect of length of story were cancelled out. It is not yet known what the relationship between Depth of Structure and other non thematic personality variables is. It would seem to be related to Educational Level in the male group only, but not to intelligence.

Educational Level itself is related to the formal variables in the male group although not in the female group. It is noticeable however that Verbal Productivity and Intelligence tend not to be. This is quite an interesting result and could be very important if the same held true for American samples. Analysis of the McClelland n-Ach scoring system indicates that various presses, thoughts, outcomes, etc... are scored when these are relevant to achievement. However these variables are in themselves related to educational level in this sample, although they are not related to length of story or intelligence. This means that had the n-Ach scale been applied to this sample it is likely that a relationship would have been found with Level of Education, even when Intelligence and Length of Story were kept constant. This relation could well be spurious,

since it would be dependent on the fact that content measures of motivation must also be measuring aspects of the formal structure.

If the same relationship between formal variables, level of education, intelligence and verbal productivity held in the American samples, then part of the relationship between n-Ach and measures of molar achievement such as grade point average may be due to stylistic rather than motivational variables.

The Concept of Attitude.

Study A indicated that Arnold's Motivation Index, Coelho's Coping Behaviour and Whitely's Adaptive Ego Functioning correlate with each other. (See Table 8-3)

	(2)	(3)	Reliability
(1) Adaptive Ego Functioning	0.39	0.69	0.13
(2) Motivation Index	--	0.53	0.23
(3) Coping Behaviour	--	--	0.51

(all coefficients are Spearman's Rho).

TABLE 8-3 : Relations between Attitude Variables.

In fact the relationships are quite high when compared with the reliabilities.⁽¹⁾ Which indicates that

(1) That the interrelations are higher than the reliabilities is not surprising when it is remembered that the inter-variable coefficients are based on the same 8 cards while the reliability is based on the correlation between two different sets of four cards, made comparable for length by use of the Spearman-Brown formula.

there is a certain amount of overlap between the three scoring systems. This is interesting in view of the diverse theoretical origins of these scores. Adaptive Ego Functioning is based on the concepts of "Ego Psychology", the Motivation Index is based on Arnold's Existentialist-Thomian position and Coping Behaviour on Adlerian formulations.

Further consideration also indicates that these scoring systems also contain quite diverse elements within them. In Study B, coping behaviour split into two elements in the female group, with Solution and Favourability being associated with each other and age, while Activity linked with Positive Attitude and Ambivalent Press with Positive Attitude. In the male group they split into three separate clusters. Activity was again associated with the two positive attitude variables; Outcome with age; Favourability with Positive and Negative Press.

It is also noticeable that these content based scores are also related to various formal variables. In Study A, Coping Behaviour and the Motivation Index were related to Perceptual Organization; in Study B, the components of Coping Behaviour were related to Productivity and Depth in the female sample and Depth and Thought in the male sample. These relationships may be due to the fact that description of a "realistically" behaving hero presupposes a fairly detailed story.

The failure of the adaptation of Adaptive Ego

Functioning to discriminate between the two groups is at first sight surprising. However, closer examination of the details of the scoring system used suggests a weakness in this scale. The present adaptation of the scale makes use of seven points, each of which was scored independently. (See Section 6 for details). Many of these questions were complex, for example :

"Was the hero's strategy of action one which included prior consideration of the consequences of his behaviour ?"

In Whiteley's study the TATs were given individually. In the present studies they were given in a group situation with a time limit (3½ minutes/story). This results in quite short stories, from which it is sometimes difficult to answer the above questions. As a result of which quite a lot of error variance may have crept into the scores. Thus, although these points may be useful as a guide, it may not be possible to answer them all about any one particular story.

This suggests one reason why Arnold's method may have produced such good results in the studies she reports. By reducing stories to imports and then classifying the imports, only the salient characteristics of any story are classified. If the story is concerned with the way in which the hero accepts responsibility for his behaviour, it may be classified under an import concerning this question. However, if the story is not

relevant to this theme but instead is about the hero's reaction to adversity then it would be classified under a different import and no judgement need be made about the hero's acceptance of responsibility. Thus, in both cases a quantitative score on the motivation index is obtained but without the scorer having to classify each story according to all the possible imports.

Thus, in a sense, Arnold's system incorporates a large number of scoring points, but only the ones applicable are used for any particular story. This can be seen more clearly when a specific example is used. The following story comes from Arnold. (1962,p.55, p.112).

"This boy has probably had some interest in working with his hands. He is looking at the violin with a craftsman's eyes. He takes in the beauty of its finish, the delicate manner in which it has been carved and thinks of possibly making something like this himself. This does not mean that he will become an artist, only that he will probably always appreciate beauty". (pp.55,56).

Arnold gives the import of this story as :

"When a man sees something beautiful he begins to dream of making something similar. He may not do it but he will always appreciate beauty". The import is classified under the score -2, Category I.B.2. (Success despite ineffective means), d. (despite dreaming

instead of active effort.)

The difference between this method and one such as that used by Coelho and the adaptation of Whiteley's is that there is no need to attempt any rating on a classification which does not fit exactly.

The difference between the two approaches is in some ways parallel to the difference Allport makes ^{a distinction} between general and unique traits. Although in Story Sequence Analysis each story is not given a unique classification, it is in fact classified only under one of a very large number of categories. This would seem to be an important methodological difference, as it would seem that on conceptual grounds a method such as Arnold's might have considerable advantages. However there are also several practical drawbacks.

The first is the large component of subjectivity in the method.

The second is the very large number of stories needed in order to construct the scoring system in the first place.

The third difficulty is that a method such as this contains the built-in assumption that the scores of the different imports are equivalent. Arnold classifies the imports under four headings :

- I) Achievement, success, happiness, active effort
(or lack of it).
- II) Right and wrong.

III) Human Relationships.

IV) Reactions to adversity.

The assumption that Positive Attitude in one of these areas will be identical to Positive Attitude in the other is contained in the scoring technique. There is no way in which this assumption can be readily tested, except by analysis of a very large number of protocols. Although Arnold has accumulated protocols from quite a large number of subjects, it does not comprise anything like a representative sample, even for a North American population. In employing the technique in another culture one is making an even greater assumption of homogeneity of meaning in the imports. It is not clear that this assumption is valid for our culture, certainly the low relation between the two halves of the scores in Study A does not provide much reassurance.

Although cross-validation is always advisable in adopting a test from another culture, the size of the study needed is much greater than that normally used for most personality tests.

Coelho and his associates have chosen another way of avoiding the problem of scoring categories which are not entirely applicable. By using a specifically constructed set of cards which indicates with a minimum of ambiguity what the problem is, they avoid the difficulty of classification of stories where a specific problem is not clearly spelt out. The importance of the

pictures used has not been studied in detail for these "attitude" approaches. Coelho used a special set, Whiteley chose cards suitable for his subjects (all subjects had the same cards). Arnold has suggested that the cards used do not have any effect on the scores.

Arnold's claim that picture effects are unimportant must depend on the assumption of homogeneity of the scoring system discussed above. It is therefore quite possible that in a different culture the picture effects may become important. (1)

Comparison of the means for Coping Behaviour scores and Positive Attitude scores indicates that the pictures used are of some importance. Overall, the results give considerable support to the hypothesis that the concept of attitude can be usefully applied to the TAT. The scores do relate meaningfully to each other and to the criterion.

Formal Variables.

Overall, the formal variables were quite sensitive in distinguishing between the male candidates, and also the female candidates when the influence of

(1) Allport (1957) has discussed some of the differences between the "optimistic" American culture and the "pessimistic" European culture.

factors such as age was removed. It is noticeable however that these scores only form a unitary group for the male candidates and thus caution should be exercised in general about the "formal" aspects of the stories of female subjects. For the male candidates the formal variables are independent of verbal productivity, and are not closely related to intelligence.

However they are all related to level of education. This is one explanation of why large differences were obtained with some of these scores between the male candidates when the role of education level was not removed. It also indicates that further work is needed in validating scoring methods based on formal scores. For example, Dana's validation studies, based on quite large samples, have taken intelligence into consideration in comparing normal and clinical groups, but not level of education. It is therefore possible that some of the differences between these groups are due to uncontrolled variations in educational background.

Study A indicates quite a close relationship between Perceptual Organization and Productivity for the female candidates. This finding reflects that of Dana (1959) who, using student samples, obtained product moment correlations of 0.23 for males and 0.55 for females. However scores on the formal variables would not seem to be related to intelligence or

education.

Verbal Productivity.

The close relationship between verbal productivity and the criterion in Study B was a little surprising. It may be that this was due in part to the mutual relation with level of education.

Macrae (1965), in a review of group selection procedures, discusses other studies in which it was found that the candidates who participated most in group discussions tended to be rated favourably by the judges. If greater verbal productivity on the TAT accompanied higher participation in other parts of the marriage guidance selection conferences, then the relationship between productivity and the decision of the selection board could be due to this phenomenon, that is, the tendency of the judges to favour active candidates.

However, another possibility is that verbal productivity has been a "Cinderella" construct which is always being explained away. Its reliability has already been noted. Evidence from other studies that verbal productivity may be a useful personality construct will now be reviewed.

Verbal Productivity and the TAT.

Surprisingly little systematic work has been done on the relation between the length of TAT stories and other personality and thematic variables. Murstein (1963) in his detailed revue of research studies using the TAT refers only to two previous studies concerned with the word count, one being that of Lindzey and Silverman (1959). In this study the following correlations between Verbal Productivity and other thematic variables were found : Achievement, 0.34; Affiliation, 0.29; Dominance, 0.23; Sex, 0.28; Number of Figures, 0.53; Ideas, 0.88; Themes, 0.54; Transcendence, 0.84; Compliance, 0.54; Involvement, 0.42; Quality, 0.63.

Welsh (1964) carried out a Principal Components Analysis on several thematic scores : Word Count, Transcendence, Personality Revealingness, Emotional Words, Theme Count and Hostility. He found that the first principal component accounted for a major share of the variance for the first five variables. This component Welsh interpreted as an index of "Richness".

On several studies the correlation between Word Count and other variables has been treated as a source of error to be minimised. This particularly so for studies on the thematic measurement of need for achievement. Vernon (1961) recalls how this problem arose in the scoring of the oral TAT protocols which Poe had obtained from eminent scientists. To the surprise

of Veroff and his colleagues there were many low scorers, who, for the most part, turned out to be physical scientists (chemists and applied physicists) and a handful of very high scorers who were, with few exceptions, dominated by that noticeable group - young social scientists. The physical scientists, it was argued, did not think verbally, and in fact may have had some difficulty in verbal expression. (Veroff, 1961,p.90). Recent findings by Hudson with school boys supports this interpretation. (Hudson, 1966).

An added complication is that of defensiveness. Veroff notes that the study by Scott (1956) and that by Ruscoe (unpublished thesis) show that with an intense involvement of motivational concern there is a decline in the length of the stories, and that this might be interpreted as an indication of defensiveness. These considerations lead Veroff to conclude that the influence of length of story should be removed from the scores of need for achievement, affiliation and power in a national (U.S.) survey.

Atkinson and his associates have found the relationship between Word Count and need scores to vary with the homogeneity of the responding population.⁽¹⁾

(1) "The obtained correlations between number of words per story and motive scores obtained from content analysis have been insignificant and negligible in homogeneous college groups when leading questions are

Smith (1970) found a correlation of .59 between n-Ach and Verbal Productivity for a non-student sample.

When there is a significant correlation, then Atkinson also recommends that the scores be corrected for length of protocol. While this advice has generally been followed by studies using the McClelland-Atkinson content analysis for need achievement, it does not attract unanimous agreement.

While elimination of the effect of word count may be desirable in some studies to ensure that predicted differences are due to motivational factors and not to fluency factors, there are other occasions when it seems less justifiable.

Murstein (1963) has pointed out that the decision whether or not to partial out a variable should depend on the relation between it and the criterion. "If, for example, achievement in the outside world is correlated with achievement in TAT stories, but verbal productivity is also correlated with real life achievement, we throw out the baby with the bath water in partialling

employed and four minutes are allotted for each story... However, when the same kind of instrument is employed in a very heterogeneous population ..., or when a shorter time (two and one half minutes) is allotted for writing stories without leading questions, ... a significant correlation between number of words per story and motive scores is obtained." Atkinson, 1958, p.837.

out verbal productivity. Unless the relationship of verbal productivity to the criterion is smaller than the correlation of verbal productivity to the variables being studied, it is best to retain all the contents of the bath, baby and all". (p.47)

A stronger conclusion, that Verbal Productivity should not be partialled out was arrived at by Block (1964).

One confounding factor is that the word count itself is related to intelligence. Webb and Hilden (1953) found a correlation of 0.4 between Verbal Productivity on 4 cards and intelligence, and also a correlation with verbal fluency of 0.5 as measured by the Primary Mental Abilities Test.

Thus, Word Count, or Verbal Productivity, has been thought of as a contaminating factor in TAT interpretation (Zubin, Eron and Schumer, 1965, p.522).

This conclusion makes the implicit assumption that the TAT is exclusively a measure of motivation and not of ability. This assumption runs contrary to other trends in this area, including the development of "Ego Psychology", within psychoanalysis (Holt, 1960), and also Zubin, Eron and Schumer's own conclusions that the formal aspects as opposed to content measures of the TAT were more promising (1965, p.462).

If Verbal Productivity is regarded not as a contaminating factor but as a personality variable in its

own right then there is at least enough evidence to constitute a "prima facie" case for it being studied more intensively.

Weissman (1964) has suggested that short TATs are an indicator of acting out, and Silver (1963) found that psychopaths told shorter stories. Lindzey and Silverman, and Welsh have found Word Count to be highly correlated with other variables more directly related to creativity on the TAT, such as Ideas, Themes, Transcendence and Quality. Furthermore, the findings related by Veroff that the social scientists were high on verbal productivity while the physical scientists were low is also relevant and suggests in fact that here is an important difference in abilities which is being reflected accurately in the TAT.

One important question is how closely verbal productivity on the TAT is related to other measures of verbal fluency. If verbal productivity is very closely related to measures of verbal fluency more readily obtainable then its value as a personality variable is obviously diminished. However, there is no a priori reason to think that it should necessarily be so related. In particular, the findings which suggest that length of TAT story is related to defensiveness indicate that Verbal Productivity may be reflecting factors such as ego-strength as well as purely intellectual ones. In other words, Verbal Productivity on a TAT given under stressful conditions (such as an assessment

situation) may well be a good indication of emotional and intellectual functioning under stress of a social kind. In this respect it varies from other measures of verbal fluency in the nature of the constraints. In a simple fluency measure such as boys' names beginning with C, the constraint is simple and concrete. In the TAT situation the constraints are much more flexible, but also more complex. (e.g. the words must form sentences and the sentences must be meaningful and meaningfully related as well as being relevant to the picture).

Some empirical support for this conceptual argument comes from Webb and Hilden's (1953) study, where a correlation of 0.50 between Productivity and verbal fluency was obtained for a group of school and college students. However the correlation of productivity with intelligence was found in another sample to be 0.40, a figure similar to those found in Study B. Were the effects of general intelligence partialled out of the 0.50 correlation, then it would drop considerably. In any case a correlation of 0.50, although significant (in both the statistical and non statistical senses of the word) is hardly an indication of identity and it suggests in fact that verbal fluency accounts for only a quarter of the variance in Verbal Productivity.

Other Related Findings.

Cope (1969) found results similar to the present study. Her subjects in this case were American students who had been judged by their professors and resident hall counsellors to exhibit "optimal mental health" matched with a control group of "average" students on the basis of age, sex and Ohio State psychological examination scores. Cope reports that various predicted differences on several tests suggested that the "optimal" group had in fact better mental health. Members of both groups took part in small discussion groups, balanced so that collectively the members of both groups had equal opportunity to speak. The discussions were tape recorded and samples of the discussion were analysed in terms of various aspects of linguistic structure. It was found that only those variables which measure verbal fluency distinguished between the two groups. There were 29 students in each group.

This study is particularly relevant to the current study because the constraints on the members of the discussion group are in some ways similar to those constraints in the TAT situation (they must speak in something approximating sentences, which must be meaningful and meaningfully related and must be relevant to the ongoing situation).

Despite the fact that the main activity of a counsellor is talking, there is little systematic research

on the linguistic abilities of counsellors, although there are several indirectly relevant studies which have been discussed in section 4.

Again the evidence suggested that the verbal activity of the counsellor might be an important factor in the counselling situation.

In conclusion, it would seem fair to say that there is a considerable amount of indirect evidence to suggest that Verbal Productivity as measured on the TAT is a meaningful personality construct.

SECTION 9

CONCLUSION

CONCLUSION

The studies reported here have shown how Marriage Guidance Counsellor candidates can be differentiated by their TAT performance and that both "Attitude" and "Formal" scores are relevant.

Furthermore, comparison of the results of Study A and Study B suggests that these differences are not the result of uncontrolled differences in factors such as intelligence, and that the relations between the TAT scores and the judgement of the selection board appears more clearly when the effect of these variables is removed.

Study B has also shown that although the male candidates can be classified along a single dimension of "acceptability", there are several types of accepted and rejected candidates.

This indicates that in using the TAT as a statistical (as opposed to clinical) assessment technique, the use of separate norms for different age groups and possibly for other variables would be essential for the female section of this population. An alternative approach would be to select in terms of profiles rather than of individual indices. The lack of any unitary

counsellor personality in other findings indicates that such approaches may be necessary in other populations as well.

The results of the studies also suggest that some more general conclusions may be drawn.

In the first place they have demonstrated the necessity for caution in making statements about TAT scores in general. TAT protocols are too rich a source of data to be easily covered by single statements, such as that TAT scores are or are not dependent on intelligence, verbal fluency, etc...

Secondly, with the above reservation in mind, it would appear that for this population there is a difference in the structure of the protocols of the male and female candidates.

Thirdly, the interrelations between the TAT scores are not obvious and the need for empirical, as well as theoretically based systems of classification is shown. In particular the distinction between Form and Content scores is not particularly clear, as far as the interrelations between variables is concerned. Furthermore, certain scoring systems, such as Perceptual Organization, or Coping Behaviour which have been used to derive single indices, would seem in fact to be heterogeneous in nature and other ways of grouping the scores may be more useful.

In the fourth place, the need for more research relating even the simplest aspects of the protocol to

other personality variables is shown to be essential. The particular case of Verbal Productivity has been discussed at some length.

Finally, the development of a measure of Depth of Structure, as an aspect of the protocol underlying both form and content scores indicates the usefulness of the construct of "levels" in conceptualizing the differences between "dimensional" and "morphogenic" approaches to assessment.

APPENDIX A. Limitations in the Usefulness of the H
Statistic when applied to the TAT.

Murstein (1963) gives the following example of how this statistic works when applied to the TAT.

Proportion of Imagery in Stories told and Measures of Ambiguity.

	Card 1	Card 2	Card 3
Aggression	0.96	0.25	0.50
Sex	0.01	0.25	0.10
Achievement	0.01	0.25	0.20
Affiliation	0.01	0.25	0.20
H	0.26	2.00	1.75

$H = \sum p(i) \log_2 p(i)$ and $p(i)$ is the proportion of cases in any i category.

Because H will obviously depend upon the number of categories used, Murstein has used H / H_{\max} where H_{\max} is the maximum H theoretically obtainable from that number of categories.

One weakness of this approach is that the H or H / H_{\max} obtained in practice must depend upon the classification system used, assuming that there is not a "natural" classification. For example Murstein (1963, 1964, 1965) reports an experiment in which college men and women were shown TAT pictures projected onto a screen. The students received booklets, asking them to describe a) who was in the picture in terms of age,

b) sex and c) what the relationships between the characters were, if any, d) what was happening in the story, e) why it was happening and f) how the story would end.

In the case of sex the categories are fixed and there is no difficulty in interpreting the meaning of H. However with some of the other variables, particularly d), e) and f) there are no self evident categories. Taking f) as a hypothetical example - imagine that for a particular picture the following frequencies for different endings appeared :

Ending	Proportion
(i)	0.01
(ii)	0.01
(iii)	0.01
(iv)	0.25
(v)	0.20
(vi)	0.08
(vii)	0.19
(viii)	0.25

However, the researcher might decide that these 8 categories were too many and might decide to combine various categories. Depending on his criterion, however, the result for the particular card might be quite different as we can see below.

Combination of categories	proportion	H (approx)
(i)	0.01	
(ii)	0.01	
(iii)	0.01	
(iv) to (viii)	0.97	0.26
<hr/>		
(iv)	0.25	
(i) + (ii) + (iii) + (v)	0.23	
(vi) + (vii)	0.26	
(viii)	0.25	2.00
<hr/>		
(iv) + (viii)	0.50	
(i) + (ii) + (vi)	0.10	
(iii) + (vii)	0.20	
(v)	0.20	1.75

Although this example is somewhat improbable, it does demonstrate that it is not sufficient to talk about ambiguity of a picture with respect to a particular need, personality trait or any other conceptual category in general terms, without specifying the exact scoring method which is going to be used.

Consideration of the same problem from a different angle shows that there is a substantial problem here, and it is not just a matter of choosing the right statistic to measure ambiguity. Part of the discussion in the literature has focussed on the value of highly unambiguous cards. It would seem plausible that if a

card obviously represents an "achievement" situation then this picture might fail to discriminate between subjects with differing levels of achievement motivation, because, assuming the absence of defense provoking anxiety, all the stories would be governed by the stimulus situation. This argument makes the assumption however, that the stories are scored on a presence / / absence of need basis. Where the score on any one story has several gradations (as has the McClelland n-Ach score) then a highly unambiguous card may have high discriminative power, as indeed has been found for n-Ach (Murstein and Easter, 1965).

Thus any particular measure of ambiguity may only be relevant to the score which it was based upon, and could have rather limited generalizability. This may go some way towards explaining the contradictory results obtained by Murstein (1965) when using the H measure discussed above, he obtained support for the hypothesis that "a very useful test would consist of clearly structured cards where the figures would be readily identifiable as to age, sex and their relationship to each other, but the pictures would be ambiguous in depicting what is going on and also ambiguous, therefore, for why this is happening and how it will end" (1963,p.193). When cards varying in structure, were given to patients who were being seen in psychotherapy, and the criterion was congruence between a Q sort carried out by the therapist and by a

psychologist from the TAT alone, somewhat different results were obtained. When the cards were structured with regard to the emotions experienced, but were ambiguous as to the age and sex of the characters, the average correlation was 0.30. Next highest was the average correlation for the cards which were structured with regard to sex and age as well as emotion (0.20). Third was the set where the age and sex were structured, but the emotions were ambiguous (0.14) and finally where all three variables were ambiguous (0.06).

From these studies Murstein considers that he is reasonably safe in speculating "that extensive ambiguity of picture is more of a hindrance than a help, for most purposes". (1965,p.225) However, since he fails to indicate the nature of the Q-sort items used, apart from revealing that they were such that "one might reasonably expect would have relevance to both the therapist and to the TAT interpreter", it is not clear in this case what his purpose was.

APPENDIX B. The "Depth" and "Plans" Scores.

These scores were based on certain explicit theoretical assumptions. The first was that motivation need not be construed in terms of basic drives and their derivatives. Secondly, it was assumed that information about the storyteller's personality could be gained by analysing the internal structure of the story. Thirdly, it was assumed that the model of behaviour as being hierarchically organized could be usefully applied to the TAT. Several different theorists have used the concept of hierarchical organization but the theories which were used here were those of Miller, Galanter and Pribram (1960) and Schroder, Driver and Streuffert (1967). The latter was in turn based on the earlier work by Harvey, Hunt and Schroder (1961). The main difference between these two theories is that the former is about the organization of behaviour as such, and essentially suggests that human behaviour, like that of a computer, is controlled by hierarchically organized programs, while the latter is specifically about thinking and cognitive complexity. Particularly seminal is the proposal in Schroder and his associates that essays can be scored in such a way as to provide a measure of the writer's complexity of thinking on the essay topic. However, as the content of TAT stories is usually more concerned with the overt behaviour of the focal figures than their thoughts, the method of

analysis used bears a closer resemblance to Miller and his associates than to the Harvey approach.

The first stage was the analysis of the story into a series of hierarchically arranged actions. The number of levels involved provided the basis for the "Depth of Structure Score". The highest level of the structure also provided the goal of that sequence of actions and was labelled the "plan".

After a certain amount of experimentation the following rules for quantifying the levels were used. Descriptions of the details of the motor actions of the figures were not counted as additional levels. The most complex plan in the story was taken and the number allotted was one less than the number of levels in the hierarchical plan. Thus, in the given examples, the scores for candidate A were 2,1,1 and for B were 0,0,0. The scores for all 8 cards were 9 for A and 3 for B. The mean length of stories was approximately the same for both candidates. The first candidate was accepted and the second was not.

Example 1. Candidate A.

"This picture shows a young man breaking the news to his grand mother with whom he lives, that he has the opportunity of a splendid job abroad - he has wanted to leave for many years, but has been reluctant to do so because he knows she will miss him and that she is dependent on him both for financial and moral support - but he feels he can wait no longer. She accepts his

departure to the best of her ability".

This story was analysed as follows :

Plans of the young man.

1. Give financial and moral support to grandmother.

2. Leave.

2a. Take up opportunity of splendid job.

2ai. Feel one can wait no longer.

2aii. Break news to other.

Plans of the grandmother.

1. Accept decision of other to the best of one's ability. (Depth Score : 2)

Example 2. Candidate B.

"This could be several things. Perhaps the one more easy to imagine from the facial expressions is grief. The young man has just told the lady (to build a story, his best friend's mother) that her husband has been trapped down a mine and there is little or no hope of him surviving".

Plans of the young man.

1. Tell other that spouse is fatally trapped.

(Depth Score : 0)

Example 3. Candidate A.

"This is a young girl - worried about her final examination at University - her parents sacrificed a great deal to give her the opportunity of getting a degree, the work has been a little more than she was capable of - and she finds it difficult to sleep at nights with so much on her mind".

Plans of heroine.

1. Get university degree.
 - 1a. Find work difficult.
 - 1b. Worry about final exam.
 - 1c. Find it difficult to get to sleep.

(Depth Score : 1).

Example 4 : Candidate B.

"This young lady is very worried. She is alone and her husband should have been home a long while ago. She has had the good sense to go to bed but has not been able to sleep, she put on the light and we see her almost distraught with worry. We think that the worry stems from the fact that the roads are very icy and her husband could just be a little drunk as he was visiting a pal's house. He had ???? the friend's house at a known time hence her very real worry".

Plans of heroine.

1. Try to sleep. (Depth Score : 0).

Example 5. Candidate A.

"A mother with her little girl - a glorious day - so she decides to take her daughter down to the town to visit the zoo - which she has been unable to do because for many years they lived miles from the town - and the mother has always been fond of animals, and wanted her daughter to have the same interests".

Plans of mother.

1. Have daughter like animals.
 - 1a. Go to zoo. (Depth Score : 1).

Example 6. Candidate B.

"This could be the Queen showing her son Prince Andrew to her daughter Princess Anne. The ???? would be very homely and still very proper in the eyes of the masses. "Oh ! Mummy he is so small, do you think he will ever grow up to be as big as Daddy."

Plans of mother.

1. Show son to daughter.

Plans of daughter.

1. Ask if brother will be as big as father.

(Depth Score : 0).

An assumption underlying the "Plans" score was that the plans would fall into some kind of "natural" classification which would enable the plans typical of accepted and rejected candidates to be compared. However this assumption turned out to be unwarranted. A second system of classification was devised along the following lines. The plans were divided into bilateral and unilateral categories. Bilateral plans were those in which the "cooperation" of two individuals was required if they were to be successfully completed. This category included unequal relations such as domination-submission since even domination of another person requires their eventual acceptance of the situation.

The Rogerian model of the counselling relationship emphasizes the importance of concerned acceptance of the client without interference with his autonomy. The

bilateral plans were then subdivided as leading to, being neutral with, or being incompatible with this goal.

The unilateral plans were classified according to the scheme put forward by Maslow (1954). These are Physiological Needs, Safety Needs, Love and Belongingness Needs, Esteem Needs and Self Actualization Needs. A single numerical score was obtained by giving a score of +1 to the "non-dominating" bilateral plans and to the Esteem and Self Actualization Needs and a score of -1 to the "dominating" bilateral plans and the physiological and safety needs. This part of the scoring system was difficult in practice and the results of Studies A and B indicate that the "plans" score was measuring very different and even opposing factors, if it was measuring anything at all.

BIBLIOGRAPHY

ABELES, N. A study of the characteristics of counselor trainees. Dissertation Abstracts, 1958,18,2204-2205.

ALLPORT, G.W. European and American theories of personality. In H.P. David and H. Von Braken (Eds), Perspectives in personality theory. London: Tavistock Publications, 1957.

ALLPORT, G.W. What units shall we employ ? Ch.7 in Personality and social encounter. Boston: Beacon Press, 1960.

ALLPORT, G.W. Pattern and growth in personality. New-York: Holt, Rinehart & Winston, 1961.

ALLPORT, G.W. The general and the unique in psychological science. Journal of Personality, 1962,30,405-422.

ANDERSON, H.H. Human behavior and personality growth. In H.H. Anderson & G.L. Anderson (Eds), Introduction to projective techniques. Englewood Cliffs:Prentice Hall, 1951.

ARBUCKLE, D.S. Client perception of counselor personality. Journal of Counseling Psychology, 1956,3,93-96.

ARBUCKLE, D.S. & WICAS, E.A. Client perception of counselor personality : instrument for the measurement of counseling perceptions. Journal of Counseling Psychology,

1957,4,304-310.

ARGYLE, M. & ROBINSON, P. Two origins of achievement motivation. British Journal of Social and Clinical Psychology, 1962,1,107-120.

ARNOLD, M.B. Story sequence Analysis. New-York : Columbia University Press, 1962.

ARNOLD, M.B. & GASSON, J.A. (Eds), The human person : an approach to an integral theory of personality. New-York: Ronald, 1954.

ATKINSON, J.W. Studies in projective measurement of achievement motivation. Doctoral Dissertation, University of Michigan, 1950. (as reported in Murstein, 1963).

ATKINSON, J.W. (Ed.) Motives in fantasy, action and society. Princeton, New Jersey: Van Nostrand, 1958.

ATKINSON, J.W. Discussion of Dr. Lazarus' paper, in J. Kagan & G.S. Lesser (Eds), Contemporary Issues in Thematic Apperceptive Methods, Springfield, Illinois: Charles C. Thomas, 1961.

ATKINSON, J.W. & CARTWRIGHT, D. Some neglected variables in contemporary conceptions of decision and performance. Psychological Reports, 1964,14,575-590.

ATKINSON, J.W. & FEATHER, N.T. (Eds) A theory of achievement motivation. London and New-York: Wiley & sons, 1966.

BAAS, M.L. Kuder Interest Patterns for psychologists.
Journal of Applied Psychology, 1950, 24, 115-117.

BARE, C.E. Relationship of counselor personality and counselor client similarity to selected counseling success criteria. Journal of Counseling Psychology, 1967, 14, 419-425.

BARKER, R.G. Ecology in motivation. In M.R. Jones (Ed.) Nebraska Symposium on Motivation, Lincoln, Nebraska : University of Nebraska Press, 1960.

BELLAK, L. The concept of projection. Psychiatry, 1944, 7, 353-70.

BELLAK, L. On the problems of the concept of projection. In L.E. Abt & L. Bellak (Eds) Projective Psychology, New-York: Alfred Knopf, 1950.

BELLAK, L. The Thematic Apperception Test and the Children's Apperception Test. New-York : Grune & Stratton, 1954.

BIERI, J. Cognitive complexity-simplicity and predictive behaviour. Journal of Abnormal and Social Psychology, 1955, 51, 263-268.

BIERMAN, R. Dimensions of interpersonal facilitation in psychotherapy and child development. Psychological Bulletin, 1969, 72, 338-358.

BIRNEY, R.C., BURDICK, H. & TEEVAN, R.C. Fear of

Failure. Princeton, New-Jersey: Van Nostrand, 1969.

BLOCK, J.R. Some observations regarding the use of projectives in social and industrial research. Journal of Social Psychology, 1964, 64, 157-160.

BRADLEY, J.E. & LYSAKER, R.L. Ambiguity as a variable in the use of a projective technique. Minneapolis, Minnesota: Pillsbury Mills, 1957 (Mimeographed), as reported in Murstein, 1963, Ch. 7.

BRAMEL, D. A dissonance theory for defensive projection. Journal of Abnormal and Social Psychology, 1962, 64, 121-129.

BRAMEL, D. Selection of a target for defensive projection. Journal of Abnormal and Social Psychology, 1963, 66, 318-324.

BRAMS, J.M. Counselor characteristics and effective communication in counseling. Journal of Counseling Psychology, 1961, 8, 25-30.

BROMLEY, D.B. Conceptual Analysis in the study of personality and adjustment. Bulletin of the British Psychological Society, 1968, 21, 155-160.

BROVERMAN, D.M., JORDAN, E.J. & PHILIPS, L. Achievement motivation in fantasy and behavior. Journal of abnormal and Social Psychology, 1960, 60, 374-378.

BROWN, R.E. A study of demonstrable criteria of

competancy in counseling in educational institutions as related to a plan for a proposed American college for counselors. Unpublished doctoral dissertation, 1946, Northwestern University, as reported in Cottle, 1953.

BURKARD, M.I. Discernment of teacher characteristics by TAT Sequence Analysis. Journal of Educational Psychology, 1952, 53, 279-287.

BYRNE, D. Need for achievement. Ch. 7 in An introduction to personality. Englewood Cliffs, New Jersey; Prentice Hall, 1966.

CANTRIL, H. The pattern of human concerns. New Jersey: Rutgers University Press, 1965.

CARKHUFF, R.R. & BERENSON, B.G. Beyond counseling and psychotherapy. New-York: Holt, Rinehart & Winston, 1967.

CARTWRIGHT, R.D. Psychotherapeutic process. In P.R. Farnsworth, M.R. Rosenzweig & J.T. Polefka (Eds), Annual Review of Psychology, 1968, 19, 387-416.

CATTELL, R.B. Principles of Design in "Projective" or misperception tests of personality. In H.H. Anderson & G.L. Anderson (Eds), An introduction to projective techniques. Englewood Cliffs, New Jersey: Prentice Hall, 1951.

CATTELL, R.B. Factor Analysis. New-York: Harper, 1952.

CATTELL, R.B. The scientific analysis of personality.

London: Penguin Books, 1965.

CLARK, R.A. The projective measurement of experimentally induced levels of sexual motivation. Journal of Experimental Psychology, 1952,44,391-399.

CLARK, R.A. & SENSIBAR, M.R. The relationship between symbolic and manifest projections of sexuality with some incidental correlates. Journal of Abnormal and Social Psychology, 1955,50,327-334.

COELHO, G.V. & al. Use of the student TAT to assess coping behavior in hospitalized, normal and exceptionally competent college freshmen. Perceptual and Motor Skills, 1962,14,355-365.

COLEMAN, J.C. Stimulus factors in the relation between fantasy and behavior. Journal of Projective Techniques, 1967,31,68-73.

COMBS, A.W. & SOPER, D.W. The perceptual organization of effective counselors. Journal of Counseling Psychology, 1963,10,222-226.

COPE, C.S. Linguistic structure and personality development. Journal of Counseling Psychology, Monograph Supplement, 1969,16,(5,pt.2).

COTTLE, W.C. Personality characteristics of counselors: I. a review of the literature. Personnel and Guidance Journal, 1953,31,445-450.

COTTLE, W.C., LEWIS, W.W. & PENNEY, M.M. Personality

characteristics of counselors : III. an experimental attitude scale. Journal of Counseling Psychology, 1954,1,74-77.

CUNNINGHAM, G.B. Prediction of staff ratings from personality variables of counselors in training and prediction of intelligence test scores of children from personality variables of parents. Dissertation Abstracts, 1967,27 (10-A) 3305.

DANA, R.H. The objectification of projective techniques: rationale. Psychological reports, 1955a,1,93-102.

DANA, R.H. Clinical diagnosis and objective TAT scoring. Journal of Abnormal and Social Psychology, 1955b,50, 19-24.

DANA, R.H. Cross-validation of objective TAT scoring. Journal of Consulting Psychology, 1956a,20,33-36.

DANA, R.H. An application of objective TAT scoring. Journal of Projective Techniques, 1956b,20,159-163.

DANA, R.H. Selection of abbreviated TAT sets. Journal of Clinical Psychology, 1956c,12,36-40.

DANA, R.H. Proposal for the objective scoring of the TAT. Perceptual and Motor Skills, 1959a,9,27-43.

DANA, R.H. The perceptual organization TAT score; number, order and frequency of components. Journal Of Projective Techniques, 1959b,23,307-310.

DANA, R.H. Objective TAT scores and personality characteristics. Perceptual and Motor Skills, 1960,10,154.

DANA, R.H. & COOPER, G.W. Susceptability to hypnosis and TAT card 12m. American Journal of Clinical Hypnosis, 1964,6,208-210.

DEMOS, G.D. The application of certain principles of client-centered therapy to short term vocational educational counseling. Journal of Counseling Psychology, 1964,19,280-84.

DI MICHAEL, S.G. The professed and measured interests of vocational rehabilitation counselors. Educational and Psychological Measurement, 1949,9,59-72.

DOLE, A.A. The prediction of effectiveness in school counseling. Journal of Counseling Psychology, 1964,11, 112-21.

ENGLISH, H.B. & ENGLISH, A.C. A comprehensive dictionary of psychological and psycho-analytical terms. London: Longmans, 1958.

EPSTEIN, S. Measurements of drive and conflict in humans: theory and experiment. In M.R. Jones (Ed.), Nebraska Symposium on Motivation. Lincoln, Nebraska: University of Nebraska Press, 1962.

ERON, L.P. A normative study of the TAT. Psychological Monographs, 1950,64,No.9, (Whole No.315).

FEATHER, N.T. The relation of expectation of success

to need achievement and test anxiety. Journal of Personality and Social Psychology, 1965,1,118-126.

FEFFER, M.H. The cognitive implications of role taking behavior. Journal of Personality, 1959,27,152-168.

FESTINGER, L. A statistical test for means of samples from skew populations. Psychometrika, 1943,8,205-210.

FIELD, P.B. et al. A student-TAT measure of competence: a cross-cultural replication in Puerto-Rico. Perceptual and Motor Skills, 1963,16,195-198.

FISHER, S. Projective methodologies. In P.R. Farnsworth (Ed.), Annual Review of Psychology, 1967,18, 165-190.

FOULDS, G.A. Organization and hostility in the Thematic Apperception Test stories of schizophrenics. British Journal of Psychiatry, 1964,110,64-66.

FRANK, L.K. Projective methods for the study of personality. Journal of Psychology, 1939,8,389-413.

FRANK, L.K. Projective Methods. Springfield, Illinois: Thomas, 1948.

GATHERCOLE, C.E. Assessment in clinical psychology. London: Penguin Books, 1968.

GEE, A.S. The values of marriage counselors. Dissertation Abstracts, 1967,27(9-B),3269.

GENDLIN, E.T. The social significance of the research. In C.R. Rogers et al, The therapeutic relationship and its impact. Madison: University of Wisconsin Press, 1967.

GENERAL REGISTER OFFICE. Classification of Occupations. London: H.M.S.O., 1966.

GIBB, C.A. Leadership. In G. Lindzey & E. Aronson (Eds), Handbook of Social Psychology (Second Edition), Vol.3. Reading, Massachusetts: Addison-Wesley, 1969.

GOLDFRIED, M.R. A suggested approach to evaluation of projective techniques. Psychological Reports, 1966, 18,111-114.

GRIGG, A.E. Client response to counselors at different levels of experience. Journal of Counseling Psychology, 1961,8,217-223.

GUREL, L. & ULLMAN, L.P. Quantitative differences in response to TAT cards : the relationship between transcendence score and the number of emotional words. Journal of Projective Techniques, 1958,22,399-401.

HABER, R.N. & ALPERT, R. The role of the situation and picture cues in projective measurement of the achievement motive. In J.W. Atkinson (Ed.), Motives in fantasy, action and society. Princeton, New Jersey: Van Nostrand, 1958.

HARRIS, H. The group approach to leadership testing.

London : Routledge and Kegan Paul, 1949.

HARVEY, O.J., HUNT, D.E. & SCHRODER, H.M. Conceptual systems and personality organization. New-York: Wiley, 1961.

HELLER, R., DAVIS, J.D. & MYERS, R.A. The effects of interviewer style in a standardized interview. Journal of Consulting Psychology, 1966,30,501-508.

HENRY, W.E. The analysis of fantasy : the Thematic Apperception Test in the study of personality. New-York: Wiley, 1956.

HENRY, W.E. Discussion of Dr. Veroff's paper. In J. Kagan & G.S. Lesser (Eds), Contemporary Issues in Thematic Apperceptive Methods. Springfield, Illinois: Thomas, 1961.

HILL, G.E. The selection of school counselors. Personnel and Guidance Journal, 1961,39,355-360.

HOLMES, D.S. Dimensions of projection. Psychological Bulletin, 1968,69,248-268.

HOIT, R.R. Formal aspects of the TAT - a neglected resource. Journal of Projective Techniques, 1958,22, 163-172.

HOIT, R.R. Recent developments in psychoanalytic ego psychology and their implications for diagnostic testing. Journal of Projective Techniques, 1960,24,254-66.

HOLT, R.R. The nature of TAT stories as cognitive products : a psychoanalytic approach. In J. Kagan & G.S. Lesser (Eds), Contemporary Issues in Thematic Apperceptive Methods. Springfield, Illinois: Thomas, 1961.

HOLT, R.R. Individuality and Generalization in the Psychology of Personality. Journal of Psychology, 1962, 30, 377-404.

HOLT, R.R. Yet another look at clinical and statistical prediction : or, is clinical psychology worthwhile ? American Psychologist, 1970, 25, 337-349.

HOLT, R.R. & LUBORSKY, L. Personality Patterns of Psychiatrists (Vol.1). London: Imago, 1958.

HOLZBERG, J. Implications for projective methods in recent developments in personality theory. Journal of Projective Techniques, 1954, 18, 418-447.

HOWE, E.S. & POPE, B. An empirical scale of therapist verbal activity level in the initial interview. Journal of Consulting Psychology, 1961, 25, 510-520.

HUDSON, L. Contrary imaginations. London: Penguin Books, 1966.

HUNT, J.M^CV. Traditional personality theory in the light of recent evidence. American Scientist, 1965, 53, 80-96.

JASPERS, J.M.F. On social perception. Unpublished Thesis. University of Leiden, 1966.

KABACK, G.R. Some characteristics of nurse counselors. Occupations, 1948,26,299-301.

KAGAN, J. The measurement of overt aggression from fantasy. Journal of Abnormal and Social Psychology, 1956,52,390-393.

KAGAN, J. The stability of TAT fantasy and stimulus ambiguity. Journal of Consulting Psychology, 1959,23, 266-271.

KAGAN, J. Thematic apperceptive techniques with children. In A. Rabin & M. Haworth (Eds), Projective Techniques with children. New-York: Grune & Stratton, 1960.

KAGAN, J. Stylistic variables in fantasy behavior : the ascription of affect states to social stimuli. In J. Kagan & G.S. Lesser (Eds), Contemporary Issues in thematic methods. Springfield, Illinois: Thomas, 1961.

KAGAN, J. On measurement, suggestion for the future. Journal of Projective Techniques, 1964,28,151-155.

KAGAN, J. & LESSER, G.S. (Eds). Contemporary Issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

KAPLAN, M.F. The effect of cue relevance, ambiguity and self reported hostility on TAT responses. Journal of Projective Techniques, 1967,31,45-50.

KELLY, E.L. & FISKE, D.W. The prediction of performance in clinical psychology. Ann Arbor: University of Michigan Press, 1951.

KELLY, G.A. The psychology of personal constructs, Vol.1, New-York: Norton, 1955.

KELLY, G.A. Man's construction of his alternatives. In G. Lindzey (Ed), The assessment of human motives. New-York: Rinehart, 1958.

KEMP, C.J. Influence of dogmatism on the training of counselors. Journal of Counseling Psychology, 1962,9, 155-157.

KENNY, D.T. A theoretical and research appraisal of stimulus factors in the TAT. In J. Kagan & G.S. Lesser (Eds), Contemporary Issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

KENNY, D.T. & BIJOU, S.W. Ambiguity of pictures and extent of personality factors in fantasy responses. Journal of Consulting Psychology, 1953,17,283-285.

KLEIN, G.S., BARR, H.L. & WOLITZKY, D.L. Personality. In P.R. Farnsworth (Ed.), Annual Review of Psychology, 1967,18,467-560.

KLINGER, E. Fantasy need achievement as a motivational construct. Psychological Bulletin, 1966,66,291-308.

KLINGER, E. Modeling effects on achievement imagery. Journal of Personality and Social Psychology, 1967,7, 49-62.

KRECH, D., CRUTCHFIELD, R.S. & BALLACHEY, E.L. Individual

in society. New-York: McGraw-Hill, 1962.

KRIEDT, P.H. Vocational interests of psychologists.
Journal of Applied Psychology, 1949,33,482-488.

KUDER, G.F. Kuder Preference Record: administrators manual - Vocational form C. ~~606~~606 Chicago: Science Research Associates, 1960.

LASKOWITZ, D. Degree of pictorial ambiguity and fantasy evocation : an appraisal of the non-monotonic hypothesis. Perceptual and Motor Skills, 1963,16,189-193.

LAZARUS, R.S. A substitutive-defensive conception of apperceptive fantasy. In J. Kagan & G.S. Lesser (Eds), Contemporary issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

LAZARUS, R.S. The direct versus substitutive controversy. Journal of Consulting Psychology, 1966,30,483-87.

LESSER, W.M. The relationship between counseling progress and empathic understanding. Journal of Counseling Psychology, 1961,8,330-336.

LEVITT, E.E., LUBIN & BRADY. On the use of TAT card 12m as an indicator of attitude towards hypnosis. International Journal of Clinical and Experimental Hypnosis, 1962,10,145-150.

LINDZEY, G. Thematic Apperception Test : the strategy

of research. Journal of Projective Techniques, 1958, 22,173-180.

LINDZEY, G. Projective techniques and cross-cultural research. New-York: Appleton-Century-Crofts, 1961.

LINDZEY, G. Seer versus sign. Journal of Experimental Research in Personality, 1965,1,17-26.

LINDZEY, G. & KALINS, D. Thematic Apperception Test: some evidence bearing on the hero assumption. Journal of Abnormal and Social Psychology, 1958,57,76-83.

LINDZEY, G. & NEWBURG, A.S. Thematic Apperception Test: a tentative appraisal of some "signs" of anxiety. Journal of Consulting Psychology, 1954,18,389-395.

LINDZEY, G. & SILVERMAN, M. Thematic Apperception Test: techniques of group administration, sex differences and the role of verbal productivity. Journal of Personality, 1959,27,311-323.

LUBORSKY, L. The personalities of the more and less successful psychotherapists. American Psychologist, 1952,7,337.

McCLELLAND, D.C. The achieving society. Princeton, New Jersey: Van Nostrand, 1961.

McCLELLAND, D.C. N achievement and entrepreneurship: a longitudinal study. Journal of Personality and Social Psychology, 1965,1,389-392.

McCLELLAND, D.C. Longitudinal trends in the relation of thought to action. Journal of Consulting Psychology, 1966, 30, 479-483.

MacFARLANE, J.W. & TUDDENHAM, R.D. Problems in the validation of projective techniques. In H.H. Anderson & G.L. Anderson (Eds), Introduction to projective techniques, Englewood Cliffs, New Jersey: Prentice Hall, 1951.

McQUITTY, L.L. Elementary Linkage Analysis for isolating orthogonal and oblique types and typal relevances. Educational and Psychological Measurement, 1957, 17, 207-229.

McQUITTY, L.L. Hierarchical Linkage Analysis for isolation of types. Educational and Psychological Measurement, 1960, 20, 55-67.

MACRAE, A. Group selection procedures. London: National Institute of Industrial Psychology, 1965.

MAGNUSSON, D. A study of ratings based on the TAT. Stockholm: Swedish Council for Personnel Administration, 1959.

MASLOW, A.H. Motivation and Personality. New-York: Harper, 1954.

MATARAZZO, J.D., SASLOW, G. & HARE, A.P. Factor analysis of interview interaction behavior. Journal of Consulting Psychology, 1958, 22, 419-429.

MEEHL, P.E. Clinical versus statistical prediction.

Minneapolis: University of Minnesota Press, 1954.

MEEHL, P.E. Seer over sign : the first good example.

Journal of Experimental Research in Personality, 1965,
1,27-32.

MEGARGEE, E.I. Undercontrolled and overcontrolled
personality types in extreme anti-social aggression.

Psychological Monographs, 1966,80,(No.611).

MEGARGEE, E.I. & COOK, P.E. The relation of TAT and
inkblot aggression content scales with each other and
with the criteria of over-aggressiveness in juvenile
delinquents. Journal of Projective Techniques, 1967,
31, 48-60.

MILLER, G.A., GALANTER, E. & PRIEBRAM, K.H. Plans and
the structure of behavior. New-York: Holt, Rinehart
& Winston, 1960.

MILLS, D.H. The research use of projective techniques.
Journal of Projective Techniques, 1965,29,513-515.

MISCHEL, W. Personality and assessment, New-York:
Wiley, 1968.

MORGAN, C.D. & MURRAY, H.A. A method for investigating
fantasies : the thematic apperception test. Archives
of Neurology and Psychiatry, 1935,34,289-94.

MORGAN, C.D. & MURRAY, H.A. Thematic Apperception Test.

In H.A. Murray (Ed.), Explorations in Personality, (1938). New-York : Science Editions, 1962.

MURRAY, H.A. Thematic Apperception Test Manual. Cambridge, Massachusetts: Harvard University Press, 1943.

MURRAY, H.A. Uses of the TAT. American Journal of Psychiatry, 1951, 107, 577-581.

MURRAY, H.A. Preparatory scaffold of a comprehensive system. In S. Koch (Ed.) Psychology : a study of a science, (Vol.3). New-York: McGraw-Hill, 1959.

MURSTEIN, B.I. A normative index of projection on the TAT. Unpublished paper, University of Connecticut. (as reported in Murstein, 1963, Ch.12).

MURSTEIN, B.I. Research and theory in projective techniques (emphasizing the TAT). New-York: Wiley, 1963.

MURSTEIN, B.I. TAT hostility and the BUSS hostility scale. Perceptual and Motor Skills, 1963b, 16, 520.

MURSTEIN, B.I. A normative study of TAT ambiguity. Journal of Projective Techniques, 1964, 28, 210-213.

MURSTEIN, B.I. New thoughts about ambiguity and the TAT. Journal of Projective Techniques, 1965, 29, 219-25.

MURSTEIN, B.I. & EASTER, L.V. The role of achievement motivation in arithmetic and thematic tests. Journal of Projective Techniques, 1965, 29, 491-497.

NAWAS, M.M. Objective scoring of the TAT : further validation. Journal of Projective Techniques, 1965, 29, 456-460.

PATTERSON, C.H. Counseling. In P.R. Farnsworth (Ed.) Annual Review of Psychology, 1966, 16, 79-110.

PINE, F. A manual rating drive content in the TAT. Journal of Projective Techniques, 1960, 24, 32-45.

PORTER, E.H. A simple measure of counselor attitudes. In E.G. Williamson (Ed), Trends in Student Personnel Work. Minneapolis: University of Minnesota Press, 1949.

POSER, E. The effect of therapists' training on group psychotherapy outcomes. Journal of Consulting Psychology, 1966, 30, 283-289.

RAPAPORT, D. Diagnostic psychological testing, Vol.1. Chicago: Year Book Publishers, 1945.

RAVEN, J. & RITCHIE, J. A comparison of 5 techniques of data analysis. Government Social Survey Paper No. 1 M 134 (Revised).

RICKS, D., UMBARGER & MACK. A measure of increased temporal perspective in successfully treated adolescent delinquent boys. Journal of Abnormal and Social Psychology, 1964, 69, 685-689.

ROGERS, C.R. The therapeutic relationship : recent theory and research. Australian Journal of Psychology, 1965, 17, 95-108.

ROGERS, C.R. et al. The therapeutic relationship and its impact: a study of psychotherapy with schizophrenics. Madison: University of Wisconsin Press, 1967.

ROKEACH, M. & BONNIER. Time perspective, dogmatism and anxiety. In M. Rokeach, The open and closed mind. New-York: Basic Books, 1960

ROSEN, J. Multiple-regression analysis of counselor characteristics and competencies. Psychological Reports, 1967, 20, 1003-1008.

ROTTER, J.B. Some implications of a social learning theory for the prediction of goal-directed behavior from testing procedures. Psychological Review, 1960, 67, 301-315.

SARASON, S. & ROSENZWEIG, S. An experimental study of the triadic hypothesis : reaction to frustration, ego-defense and hypnotizability. II. TAT. Character and Personality, 1942, 11, 150-165.

SCHNEERER, M. et al. Personality functioning and cognitive psychology. Journal of Personality, 1953, 22, 1-60.

SCHRODER, H.M., DRIVER, M.J. & STREUFERT, S. Human Information Processing. New-York : Holt, Rinehart & Winston, 1967.

SCHUMACHER, R.M. Ratings of competence of counselors and psychotherapists. Journal of Counseling Psychology, 1967, 14, 440-443.

SCOTT, W.A. The avoidance of threatening material in imaginative behavior. Journal of Abnormal and Social Psychology, 1956, 52, 338-346.

SCHWEBEL, M., KARR, L. & SLOTKIN, H. Counselor relationship competence : a unifying concept. Educational and Psychological Measurement, 1959, 19, 515-537.

SECHREST, L. Testing, measuring and assessing people. In E.F. Borgatta & W.W. Lambert (Eds), Handbook of Personality Theory and Research. Chicago: Rand McNally, 1968.

SECORD, P.F. & BACKMAN, C.W. Social psychology. New-York: McGraw-Hill, 1964.

SEMEONOFF, B. The use of projective techniques in selection for counselling. Bulletin of the British Psychological Society, 1956, 29, 45-6.

SEMEONOFF, B. Projective techniques in selection for counselling. Human relations, 1958, 11, 113-122.

SEMEONOFF, B. An analysis of the counselor personality. Rorschach Newsletter, 1959, 4, 13-20.

SEMEONOFF, B. Rorschach concomitants of self-description variables. Rorschach Newsletter, 1960, 5, 26-34.

SEMEONOFF, B. An application of inter-person analysis in personality assessment. British Journal of Psychology, 1963, 54, 71-81.

SHIPLEY, T.E. & VEROFF, J. A projective measure of need for affiliation. Journal of Experimental Psychology, 1952, 43, 349-356.

SHNEIDMAN, E.S. (Ed.) Thematic Test Analysis. New-York : Grune & Stratton, 1951.

SHNEIDMAN, E.S. Psycho-logic : a personality approach to patterns of thinking. In J. Kagan & G.S. Lesser (Eds), Contemporary issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

SHRABLE, N. & STEWART, L.H. Personality correlates of achievement imagery, theoretical and methodological implications. Perceptual and Motor Skills, 1967, 24, 1087-1098.

SILVER, A.W. TAT and MMPI psychopathic deviancy scale differences between delinquent and non delinquent adolescents. Journal of Consulting Psychology, 1963, 27, 370.

SINGER, M.I. & WYNNE, L.C. Principles for scoring communication defects and deviances in parents of schizophrenics : Rorschach and TAT scoring manuals, Psychiatry, 1966, 29, 260-288.

SKOLNICK, A. Motivational imagery and behavior over twenty years. Journal of Consulting Psychology, 1966, 30, 463-478.

SMALL, D.G. A multiple-choice version of the TAT as a

measure of aggression in psychiatric patients. British Journal of Medical Psychology, 1966,39,163-169.

SMITH, J.M. A note on achievement motivation and verbal fluency. Journal of Projective Techniques and Personality Assessment, 1970,34,121-124.

SNIDER, L.B. A research method validating self determination. In M.B. Arnold & J.A. Gasson (Eds), The human person. New-York: Ronald, 1954.

STARR, S. The relationship between hostility-ambiguity of the TAT cards, hostile fantasy and hostile behavior. Doctoral Dissertation, Washington State University. (As reported in M_urstein, 1963, Ch.11).

STONE, H. The TAT aggressive content scale. Journal of Projective Techniques, 1956,20,445-452.

TOMKINS, S.S. The Thematic Apperception Test : the theory and practice of interpretation. New-York: Grune & Stratton, 1947.

TOMKINS, S.S. Discussion of Dr.Holt's paper. In J. Kagan & G.S.Lesser (Eds), Contemporary issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

TOMKINS, S.S. Affect, imagery and consciousness, (Vol.1), Springer, 1962.

TOMKINS, S.S. Simulation of personality : the

inter-relationships between affect, memory, thinking, perception and action. In S.S. Tomkins & S. Messick (Eds), Computer Simulations of Personality. New-York: Wiley, 1963.

TOOLEY, K. Expressive style as a developmental index in late adolescence. Journal of Projective Techniques, 1967,31,51-59.

TRUAX, C.B. Effective ingredients in psychotherapy: an approach to unraveling the patient therapist interaction. Journal of Counseling Psychology, 1963,10.

TRUAX, C.B. & CARKHUFF, R.R. Towards effective counseling and psychotherapy. Chicago: Aldine Publishing, 1967.

TUMA, A.H. & GUSTAD, J.W. The effects of client and counselor personality characteristics on client learning in counseling. Journal of Counseling Psychology, 1957,4,136-141.

ULLMAN, L.P. Productivity and the clinical use of TAT cards. Journal of Projective Techniques, 1957,21, 399-403.

VEROFF, J. Thematic apperception in a nationwide sample. In J. Kagan & G.S. Lesser (Eds), Contemporary issues in thematic apperceptive methods. Springfield, Illinois: Thomas, 1961.

VEROFF, J., FELD, S.C. & GURIN, G. Achievement motivation and religious background. American Sociological

Review, 1962,27,205-217.

WALLACE, J. What units shall we employ ? : Allport's questions revisited. Journal of Consulting Psychology, 1967,31,56-64.

WALLIS, J.H. Marriage Guidance. London: Routledge and Kegan Paul, 1968.

WALLIS, J.H. & BOOKER, H.S. Marriage Counselling, London: Routledge and Kegan Paul, 1958.

WARMAN, R.E. Differential perceptions of the counseling role. Journal of Counseling Psychology, 1960,7,269-74.

WATSON, R.I. Historical review of objective personality testing: the search for objectivity. In B.M. Bass & I.A. Berg (Eds), Objective approaches to personality assessment. Princeton, New Jersey: Van Nostrand, 1959.

WEATHERLY, D. Maternal permissiveness towards aggression and subsequent TAT aggression. Journal of Abnormal and Social Psychology, 1962,65,1-5.

WEBB, W.B. & HILDEN, A.H. Verbal and intellectual ability as factors in projective test results. Journal of Projective Techniques, 1953,17,102-105.

WEISSKOPF, E.A. A transcendence index as a proposed measure in the TAT. Journal of Psychology, 1950a,29, 379-390.

WEISSKOPF, E.A. An experimental study of the effect

of brightness and ambiguity on projection in the TAT.

Journal of Psychology, 1950b, 29, 407-416.

WEISSMAN, S.L. Some indicators of acting out behavior from the thematic apperception test, Journal of Projective Techniques, 1964, 28, 366-375.

WELSH, R.S. Ambiguity and response richness in the TAT. Dissertation Abstracts, 1964, 25, 2619.

WHITE, R.W. Prediction of hypnotic susceptibility from a knowledge of subjects' attitudes. Journal of Psychology, 1937, 3, 265-277.

WHITE, R.W. Hypnotic test. In H.A. Murray (Ed.), Explorations in personality, (1938). New-York: Science Editions, 1962.

WHITELEY, J.M. A method for assessing adaptive ego functioning using the Thematic Apperception Test. Journal of Experimental Education, 1966, 34, 1-21.

WING, C.W. The measurement of personality. In D.K. Whitla (Ed.), Handbook of measurement and assessment in behavioral sciences. Reading, Massachusetts: Addison-Wesley, 1968.

WINTER, W.D. et al. Story sequence analysis of family TATs. Journal of Projective Techniques, 1965, 29, 392-97.

WINTER, W.D. et al. Hostility themes in the family TAT. Journal of Projective Techniques, 1966, 30, 270-74.

WRENN, C.G. The selection and education of student personnel workers. Personnel and Guidance Journal, 1952, 31,9-14.

WYATT, F. The scoring and analysis of the TAT. Journal of Psychology, 1947,24,319-30.

WYNNE, L.C. & SINGER, M.T. Thought disorder and family relations of schizophrenics : I. a research strategy. Archives of General Psychiatry, 1963,9, 191-198.

WYNNE, L.C. & SINGER, M.T. Thought disorder and family relations of schizophrenics : II. a classification of forms of thinking. Archives of General Psychiatry, 1963b,9,199-206.

YUDIN, L.W. & REZINKOFF, M. Color and its relation to personality : the TAT. Journal of Projective Techniques and Personality Assessment, 1966,30,479-487.

ZUBIN, J., ERON, L.D. & SCHUMER, F. An experimental approach to projective techniques. New-York: Wiley, 1965.